Final

Salton Sea Unit 6 License California Energy Commission Amendment 1

Prepared for

CalEnergy Obsidian Energy LLC

December 2004

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Submitted to

California Energy Commission

December 2004

CH2MHILL

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1.0 Introduction

1.1 Overview of Amendment

On July 29, 2002 CE Obsidian Energy, LLC (CEOE) filed an Application for Certification (AFC) with the California Energy Commission (CEC) seeking approval to construct and operate the Salton Sea Unit #6 (SSU6) project, a 185 megawatt (MW) net output geothermal steam powered electric generation facility. The CEC issued a final decision for the SSU6 Project on December 17, 2003.

The SSU6 Project site is in the Imperial Valley, approximately 1,000 feet southeast of the southern reach of the Salton Sea, within the unincorporated area of Imperial County, California. The town of Niland is approximately 7.5 miles to the northeast and the town of Calipatria is approximately 6.1 miles to the southeast of the plant site. The Sonny Bono Salton Sea Wildlife Refuge (Refuge) Headquarters is approximately 4,000 feet from the plant site. The Alamo River and New River are approximately 4.8 miles southwest and 2.7 miles east of the plant site, respectively.

During the review of the EPC contract proposals, several identified changes in the project design that would minimize construction costs, increase operational efficiencies, and reduce the overall installed costs of the project were identified. The proposed changes to the project design include the following:

- Increased geothermal brine flow from 12,800,000 pounds per hour (pph) to an expected flow of 15,100,000 pph;
- Introduction of a Organic Rankine Cycle (ORC) unit to utilize energy dissipated from the dilution water heater and eliminate its plume and associated emissions by condensing steam from the dilution water heater in a closed-loop system provided by the ORC unit;
- Increased net electrical generation from 185 MW to 215 MW;
- The additional of one production well and one injection well with associated piping sited on existing wellpads;
- Elimination of one of the two primary and secondary clarifier trains;
- Elimination of one of the two vacuum belt filters;
- Eliminate the two dilution water heaters vent stacks;
- Addition of a 40 foot emergency relieve vent stack to each of the four atmospheric flash tanks;
- Increased cooling tower size and recirculation rate from 260,000 gallons/minute (gpm) to 323,635 gpm in order to support the additional heat rejection needs resulting from the increased plant capacity;

- Utilization of a counter flow cooling tower design as opposed to the cross flow design originally proposed;
- Replacement of the biological H_2S abatement (oxidizer box) with a chemical abatement system using two basins (each being 80 feet by 50 feet by 10 feet above grade) near the cooling towers to treat the hotwell condensate with hydrogen peroxide and Tower Brom 991 (or equivalent) prior to delivery to the cooling tower;
- Increased voltage of the electrical transmission lines from 161 kilovolts (kV) to 230 kV with no changes to the number, height, or placements of the poles; and
- Extension of the project site's southern boundary by 328 feet, increasing the project site by 19.4 acres (2,571 feet by 328 feet) to a total of approximately 100 acres.

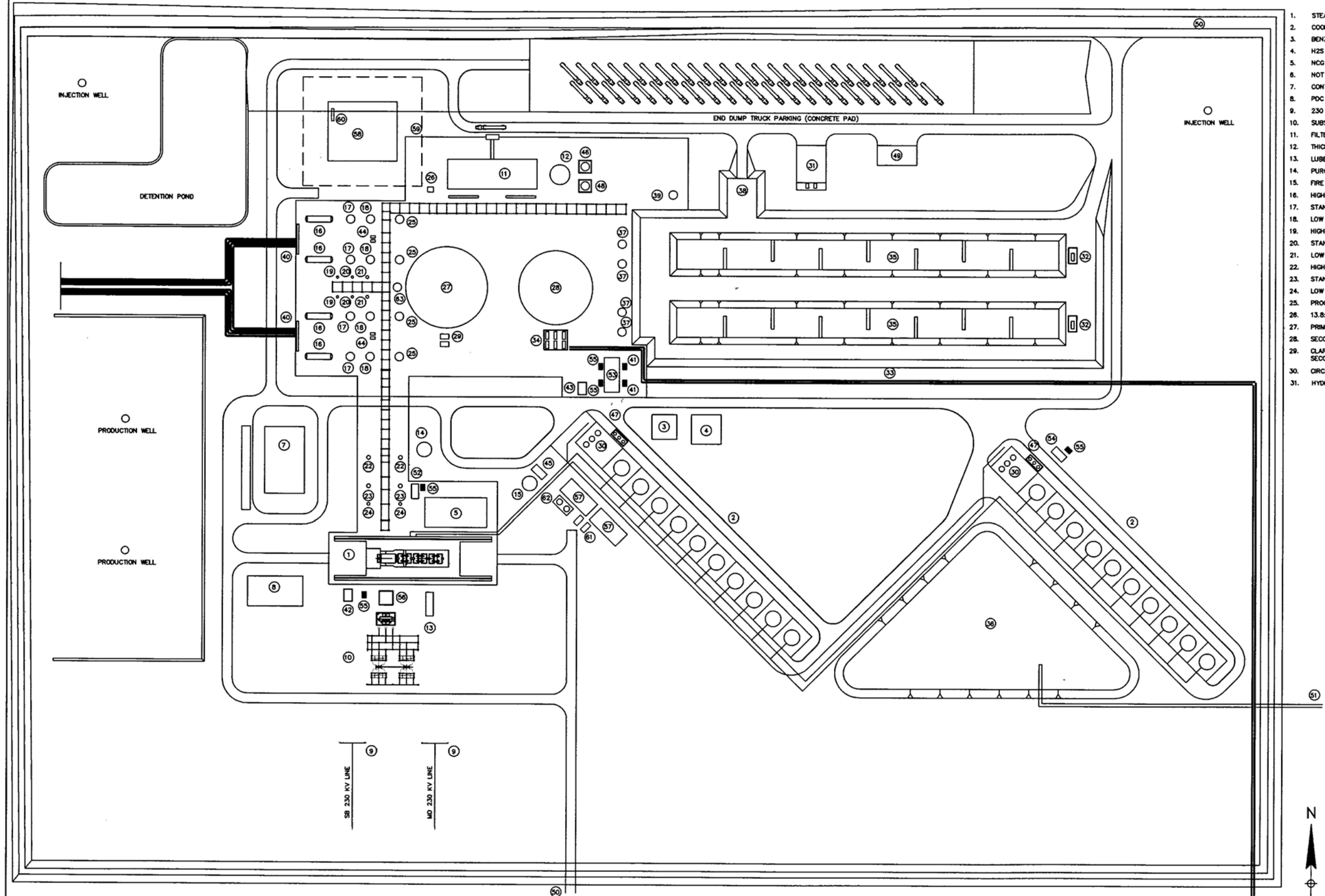
Figure 1 presents revised site plan for the SSU6 Project. As noted in Figure 1, the ORC unit is located near the northwest corner of the project site. The chemical H_2S abatement system for the hotwell condensate is located south of the cooling tower that is in the center of the project site.

1.2 Summary of Environmental Impacts

Section 1769 (a)(1)(E) of the CEC Siting Regulations requires that an analysis be conducted that addresses impacts that the modification might have on the environment and proposed measures to mitigate any significant adverse impacts. In addition, Section 1769 (a)(1)(F) of the Siting Regulations requires a discussion of the impacts the modification might have on the project's ability to comply with applicable LORS. Section 3.0 of this Amendment includes a discussion of the potential environmental impacts of the proposed project design changes, as well as a discussion of the consistency of the modification with LORS. Section 3 concludes that there will be no significant environmental impacts associated with the Amendment and that the project as amended will comply with applicable LORS.

1.3 Consistency of Amendment with License

Section 1769 (a)(1)(D) of the CEC Siting Regulations requires a discussion of the Amendment's consistency with the LORS and whether the modifications are based upon new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision. If the project is no longer consistent with the license, an explanation why the modification should be permitted must be provided. In the sections that follow, CEOE will provide an explanation of the proposed modifications, rationale for the modifications, and a LORS compliance analysis.



1. STEAM TURBINE/GENERATOR
2. COOLING TOWER
3. BENZENE ABATEMENT
4. H2S ABATEMENT
5. NCG REMOVAL SYSTEM
6. NOT USED
7. CONTROL BUILDING
8. POC 601
9. 230 KV IID TAKE OFF STRUCTURE
10. SUBSTATION
11. FILTER PRESS SYSTEM
12. THICKENER
13. LUBE OIL SKID
14. PURGE WATER STORAGE TANK
15. FIRE WATER TANK
16. HIGH PRESSURE SEPARATOR
17. STANDARD PRESSURE CRYSTALLIZER
18. LOW PRESSURE CRYSTALLIZER
19. HIGH PRESSURE SCRUBBER
20. STANDARD PRESSURE SCRUBBER
21. LOW PRESSURE SCRUBBER
22. HIGH PRESSURE DEMISTER
23. STANDARD PRESSURE DEMISTER
24. LOW PRESSURE DEMISTER
25. PROCESS ATMOS. FLASH TANK
26. 13.8:4.16 KV TRANSFORMER
27. PRIMARY CLARIFIER
28. SECONDARY CLARIFIER
29. CLARIFIER UNDERFLOW, PRIMARY & SECONDARY SEED RECYCLE PUMPS
30. CIRC. WATER PUMPS
31. HYDRO-BLAST PAD
32. AERATED BRINE INJECTION PUMPS
33. BRINE INJECTION LINES
34. BRINE BOOSTER & MAIN BRINE INJECTION PUMPS
35. BRINE POND
36. WATER POND
37. EMERGENCY RELIEF TANK
38. TRUCK WASH DOWN
39. PRODUCTION TEST UNIT
40. PRODUCTION MANIFOLD
41. 4160 V. TRANSFORMER
42. 480 V. DIESEL GENERATOR
43. 4160 V. DIESEL GENERATOR
44. DILUTION WATER PUMPS
45. FIRE WATER PUMP HOUSE
46. HCL TANK
47. CHEMICAL TANKS – TOWERS
48. CHEMICAL TANKS – FLOCCULANT
49. CHEMICAL/OIL STORAGE PAD
50. PLANT ACCESS POINT
51. CANAL WATER SUPPLY FROM IID VAIL 4A
52. POC 602
53. POC 603
54. POC 604
55. 480 V. TRANSFORMER
56. GENERATOR BREAKER 52G
57. CONDENSATE BASIN
58. PACKAGED BINARY PLANT
59. CLASS 1 GROUP D, DIVISION 2 AREA
60. PENTANE STORAGE TANK
61. CONDENSATE BASIN BLOWERS
62. HP CONDENSATE CHEMICAL ABATEMENT SYSTEM
63. DILUTION WATER HEATER

GRAPHIC SCALE
150 100 50 0 50 100 150 250 500
1"=100'

N

THIS DRAWING IS INTENDED TO BE INDICATIVE ONLY OF THE COMPANY'S MINIMUM EXPECTATIONS AND IS TO BE VARIED BY THE BIDDER AS CONSIDERED NECESSARY TO ACHIEVE A SUITABLE DESIGN

REV.	DESCRIPTION	PREP.	CHK	DATE
7	ADDED DWH	JAB	ML	12-16-04
6	GENERAL REVISION	JAB	BH	12-6-04
5	ADDED BINARY PLANT/SINGLE CLARIFIERS	JAB	BH	11-21-04
4	ISSUED FOR EPC BID	CE	CE	6-20-03
3	ISSUED FOR FINAL CE REVIEW	CE	CE	03-18-03
2	RE-ISSUED FOR AFC	VJZ		
1	PRODUCTION TEST UNIT ADDED	VJZ	JSG	03-29-02
0	ISSUED FOR AFC	VJZ	JSG	03-19-02
A	CLARIFIER SPACING INCREASED TO 60'	VJZ	JSG	03-14-02
A	ISSUED FOR REVIEW	VJZ	JSG	03-11-02

CAL ENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE
7030 GENTRY ROAD
CALIPATRIA, CALIFORNIA 92233

SALTON SEA UNIT 6

Figure 1

PLOT PLAN – CASE 3
1 CONDENSING TURBINE, 1 ORC UNIT,
1 CLARIFIER TRAIN
215 MW NET OUTPUT

	by	date
DESIGNED	JSG	03-11-02
DRAWN	VJZ	03-11-02
CHECKED		
APPROVED		

SHEET 1 of 1

DRAWING NUMBER
22-024-GA-002

2.0 Description of Project Amendment

Consistent with California Energy Commission Siting Regulations Section 1769 (a)(1)(A) and 1769(a)(1)(B), this section includes a complete description of the project modification, as well as the necessity for the amendment.

2.1 Project Description

During the review of the EPC contract proposals, several potential EPC contractors identified changes in the project design that could minimize construction costs, increase operational efficiencies, and enhance the project's economics. After review of these proposals, CEOE determined that incorporation of some of the suggested project design changes would be beneficial to the project and to the community. As such, CEOE is submitting this application for an amendment to the originally permitted project that incorporates these beneficial design changes and request that these changes be incorporated into the license. The proposed changes to the project design include the following:

- The addition of one production well and one injection well with associated piping sited on existing wellpads;
- Increased geothermal brine flow from 12,800,000 pounds per hour (pph) to an expected flow of 15,100,000 pph to produce an additional 15 MW;
- Increased net electrical generation from 185 MW to 215 MW as a result of increased brine flow and the addition of a ORC unit as described below;
- Addition of a ORC unit to utilize energy dissipated from the dilution water heater (DWH) to produce up to 10 MW;
- Elimination of the DWHs vent stacks, visible plumes, and associated emissions by condensing dilution water heater steam in a closed-loop system provided by the ORC unit;
- Increase the voltage of the electrical transmission lines from 161 kV to 230 kilovolts (kV) with no changes to the number or placements of the poles;
- Elimination of one of the two primary and secondary clarifier trains;
- Elimination of one of the two vacuum belt filters;
- Increased cooling tower size and recirculation rate from 260,000 gallons/minute (gpm) to 323,635 gpm in order to support the increased plant capacity;
- Utilization of a counter flow cooling tower design as opposed to the cross flow designed originally proposed;
- Addition of a 40 foot stack to each of the atmospheric flash tanks for emergency relieve only;

- Replacement of the biological H_2S abatement (oxidizer box) with a chemical abatement system using two basins (each being 80 feet by 50 feet and 10 feet above grade) near the cooling towers to treat the hotwell condensate with hydrogen peroxide and Tower Brom 991 (or equivalent) prior to deliver to the cooling tower; and
- Extension of the project site's southern boundary by 328 feet, increasing the project site by 19.4 acres (2,571 feet by 328 feet) to a total of approximately 100 acres.

2.1.1 Increased Production and Injection Wells

The increase in the geothermal brine flow will require the installation of one new production well. This new well would be installed on well pad OB-2, located immediately north of the project site. The additional well on OB-2 will not necessitate an increase in the well pad size or area temporarily disturbed during construction (approximately 560 by 560 feet). However, an additional pipeline will be hung on the pipeline stringers to convey the brine from OB-2 to the power plant. The pipeline lateral supports will likely be slightly larger to support the additional load, but no additional supports will be required. No additional ground disturbances will occur over those previously licensed, with the exception of the additional drilling time required for the third well on OB-2 and the additional time required to string the additional pipeline.

One additional injection well will be located on pad OBI-1 (Pad O), located northwest of the intersection of Lindsay and Gentry Roads which will be used to re-inject the additional brine produced. The new injection well will required additional piping to be installed and will increase the construction duration at this well pad. The potential environmental impacts of this change will be addressed in Section 3.

2.1.2 Increased Brine and Electrical Production

Until the production wells are drilled and precise brine characteristics identified, the amount of brine necessary to produce a certain amount of energy is not fully known. However, given the existing knowledge regarding brine from the Salton Sea Known Geothermal Resource, the anticipated range of brine production may be between 14,900,000 to 15,400,000 pph, with an expected brine flow rate of approximately 15,100,000 pph. The increased brine production from 12,800,000 pph to an expected flow of 15,100,000 pph will allow for an additional 15 megawatts of electrical power to be generated. The quality of brine necessary to produce a specified amount of energy is based on the enthalpy of the brine (i.e., the amount of energy stored by the brine). The proposed increase in brine flow, when combined with the addition of the Organic Rankine Cycle (ORC) unit described in Section 2.1.3 will increase the project's net summertime electrical generation up to approximately 215 megawatts. No additional processing equipment will be required to accommodate this increase in brine flow, but some of the piping may be sized slightly greater in diameter to accommodate the increased flow through the system.

Figures 2a through 2e present revised heat and mass balances for the proposed project. Figure 3 presents the revised water balance for the project; however, no additional fresh water beyond that authorized in the license will be required.

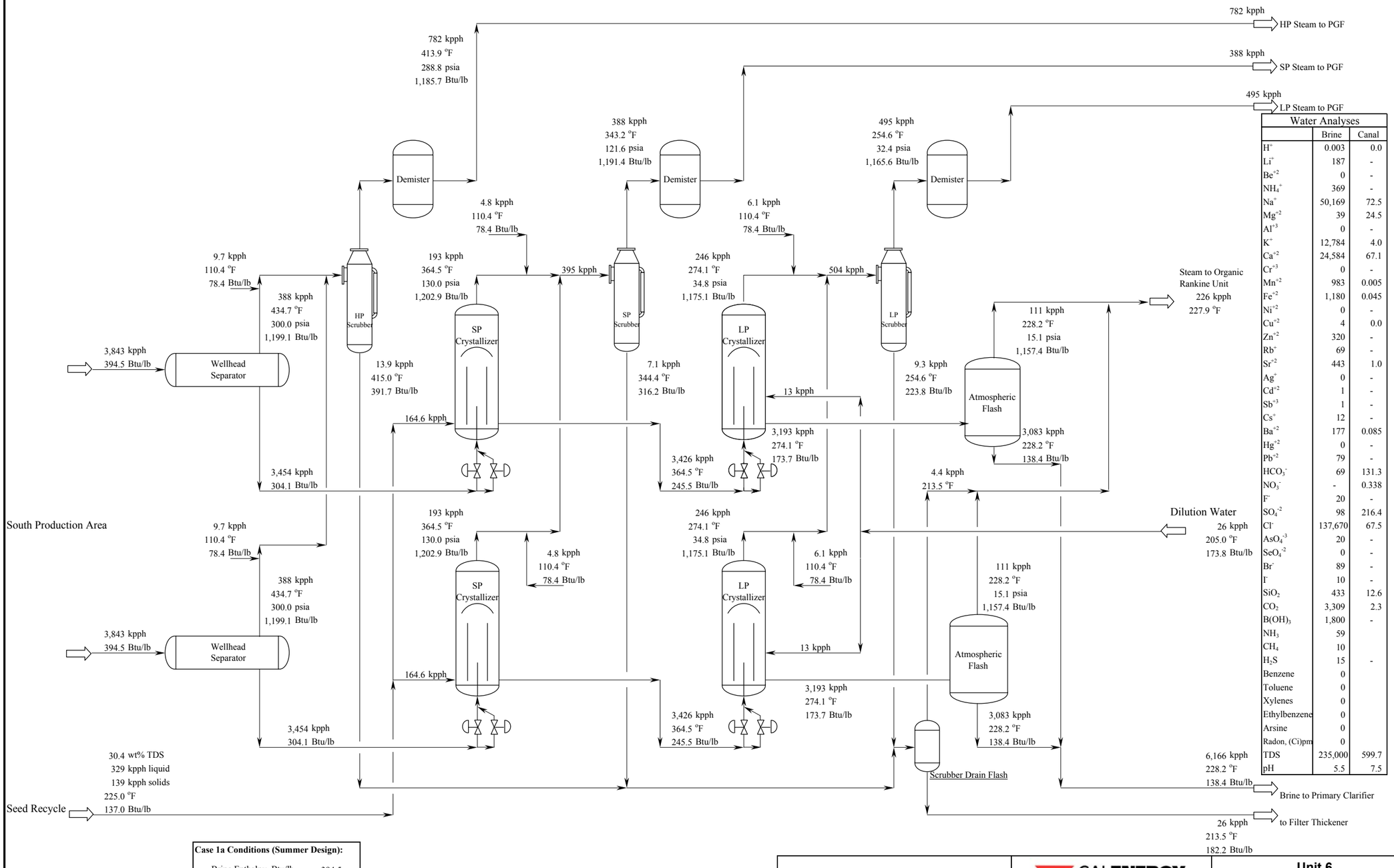
2.1.3 Addition of a Organic Rankine Cycle Unit

The addition of a ORC unit to the SSU6 Project will provide an incremental 10.1 megawatts to the facility's output by utilizing low temperature unused steam from the atmospheric flash tanks (AFT) at a temperature of 228 ˚F.

In the SSU6 Project, geothermal fluids are flashed to steam; this steam is expanded in a steam turbine. The turbine drives a generator which converts the energy into electricity. The remaining steam is then condensed and returned to the cooling tower as make up water or returned to the resource. The ORC unit utilizes lower temperature, unused steam and a secondary (i.e., binary) working fluid that passes through vaporizers, condensing in the condenser. Energy from the unused steam causes the secondary fluid, an organic compound, to flash to a vapor. This vapor drives two turbines. The ORC unit produces a small amount of non-condensable gas (NCG), which is periodically vented to a vapor recovery unit with an efficiency of 95 percent. This vapor recovery unit removes the volatile organic compounds (VOC) from the non-condensable vent gases. The NCG is extracted periodically during normal operation from the ORC unit condenser. The cooling media for the ORC unit is cooling water that will be supplied from the cooling tower and will be provided to the greatest extent possible from geothermal condensate. The condensate used in the ORC unit is either 1) returned to the process for dilution water or 2) injected in the appropriate plant wells (shallow reinjection wells located on the plant site), depending on process need.

Figure 4 shows the general configuration of the proposed ORC unit. General dimensions and supplier are subject to change as final design is not completed, however, physical parameters (emissions, heights of structures, amount of hazardous materials used, etc.) used to assess the environmental impacts of the ORC unit will be either the same as those presented in this analysis or will be lower (i.e., emissions and structure heights) resulting in lower impacts than were analyzed.

CEOE anticipates utilizing a proven ORC technology. The addition of the ORC will eliminate the need for the DWH exhaust stacks. Removing the DWH stacks will result in the conservation of water that was previously emitted as steam plumes, will reduce a source of visual impacts, and will increase electrical production without additional energy/resource consumption.



Water Analyses		
	Brine	Canal
H^+	0.003	0.0
Li^+	187	-
Be^{+2}	0	-
NH_4^+	369	-
Na^+	50,169	72.5
Mg^{+2}	39	24.5
Al^{+3}	0	-
K^+	12,784	4.0
Ca^{+2}	24,584	67.1
Cr^{+3}	0	-
Mn^{+2}	983	0.005
Fe^{+2}	1,180	0.045
Ni^{+2}	0	-
Cu^{+2}	4	0.0
Zn^{+2}	320	-
Rb^+	69	-
Sr^{+2}	443	1.0
Ag^+	0	-
Cd^{+2}	1	-
Sb^{+3}	1	-
Cs^+	12	-
Ba^{+2}	177	0.085
Hg^{+2}	0	-
Pb^{+2}	79	-
HCO_3^-	69	131.3
NO_3^-	-	0.338
F^-	20	-
SO_4^{-2}	98	216.4
Cl^-	137,670	67.5
AsO_4^{-3}	20	-
SeO_4^{-2}	0	-
Br^-	89	-
I^-	10	-
SiO_2	433	12.6
CO_2	3,309	2.3
$B(OH)_3$	1,800	-
NH_3	59	
CH_4	10	
H_2S	15	-
Benzene	0	
Toluene	0	
Xylenes	0	
Ethylbenzene	0	
Arsine	0	
Radon, (Ci)pm	0	
TDS	235,000	599.7
pH	5.5	7.5

Case 1a Conditions (Summer Design):

Brine Enthalpy, Btu/lb	394.5
Brine TDS, wt%	23.5
HP Flash, psia	300.0
SP Flash, psia	130.0
LP Flash, psia	34.8
Dry Bulb Temp., F	105.0
Wet Bulb Temp., F	80.0
Cooling Tower Cells	20
Net Output,MW	200

Figure 2a

REV.	DESCRIPTION		
D	DATA REVISION	ml	12-16-04
C	DELETE DILUTION WATER HEATER	wel	12-2-04
B	GENERAL REVISION	JRB	4-18-02
A	ISSUED FOR REVIEW	JRB	3-15-02

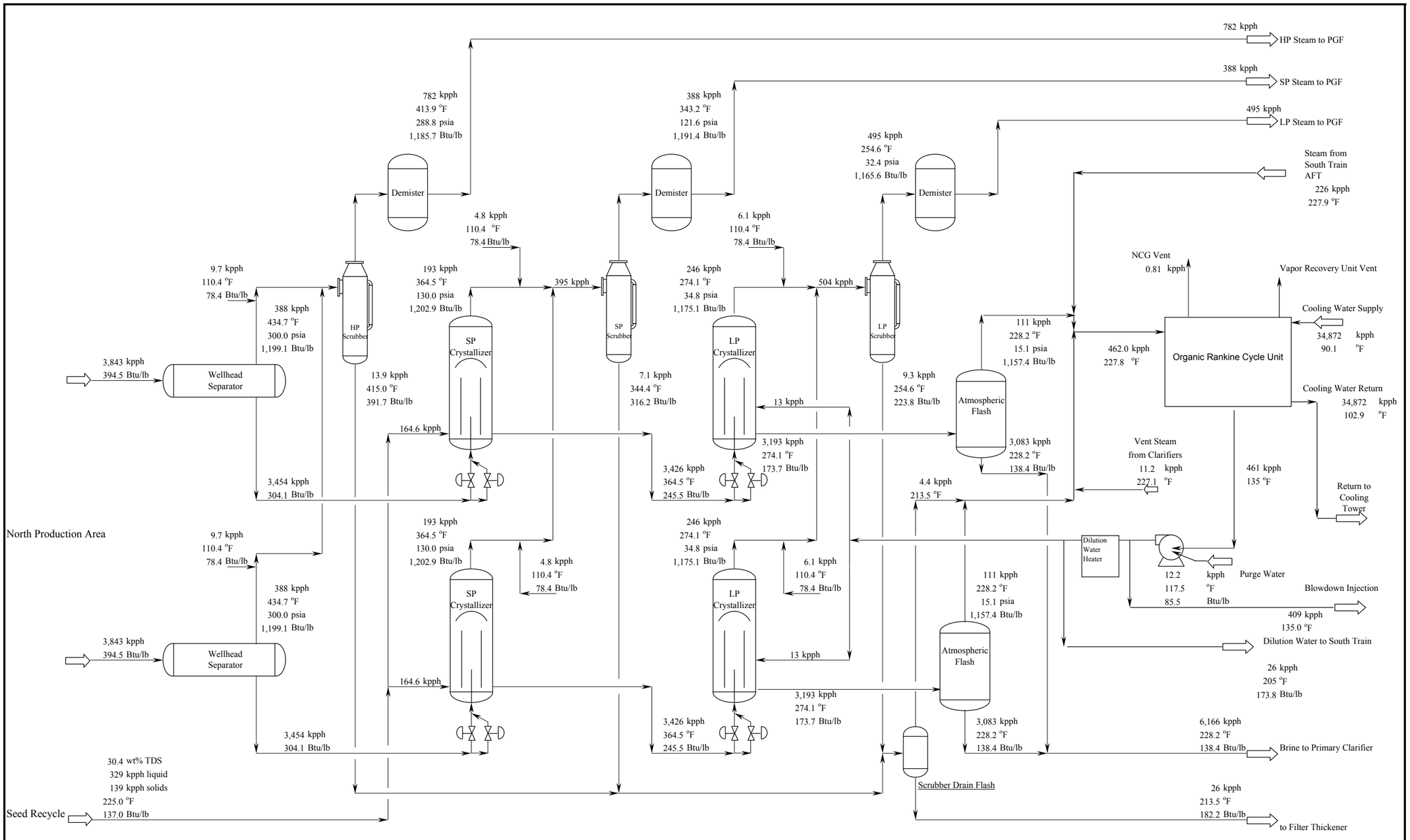
CALENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE

Unit 6 Development Project
Initial Engineering

Unit 6
Resource Production Facility
Crystallizer PFD - South Train

SHEET 1 of 5

DRAWING NUMBER 22-024-PF-002 D



Case 1a Conditions (Summer Design):

Brine Enthalpy, Btu/lb	394.5
Brine TDS, wt%	23.5
HP Flash, psia	300.0
SP Flash, psia	130.0
LP Flash, psia	34.8
Dry Bulb Temp., F	105.0
Wet Bulb Temp., F	80.0
Cooling Tower Cells	20
Net Output,MW	200

Figure 2b

REV.	DESCRIPTION		
D	DATA REVISION	ml	12-16-04
C	DEL. DIL H2O HTR; ADD ORC UNIT; 190 MW DATA	wel	12-2-04
B	GENERAL REVISION	JRB	4-18-02
A	ISSUED FOR REVIEW	JRB	3-15-02

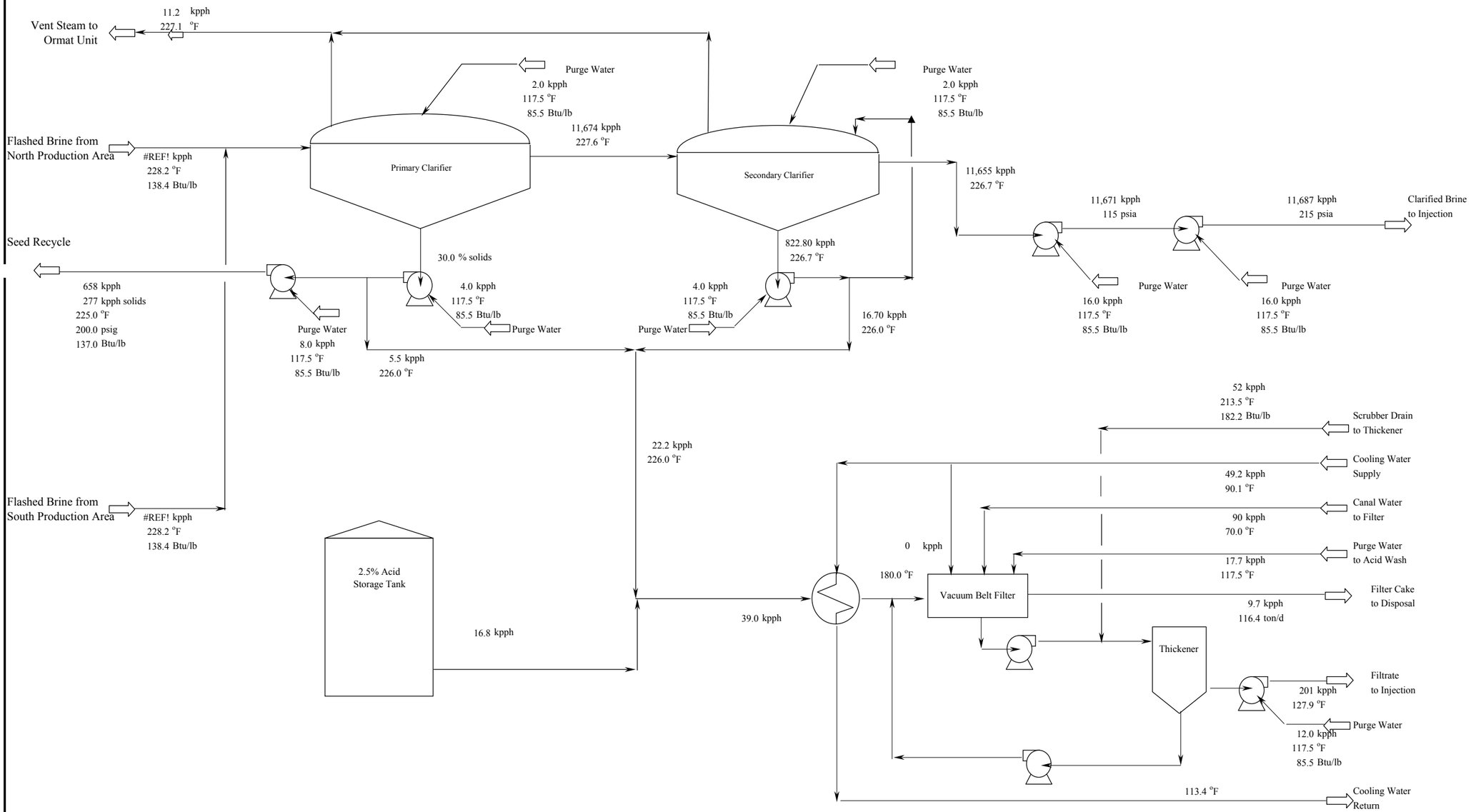
CALENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE

Unit 6 Development Project
Initial Engineering

Unit 6
Resource Production Facility
Crystallizer PFD - NorthTrain

SHEET 2 of 5

DRAWING NUMBER 22-024-PF-002 D



Case 1a Conditions (Summer Design):

Brine Enthalpy, Btu/lb	394.5
Brine TDS, wt%	23.5
HP Flash, psia	300.0
SP Flash, psia	130.0
LP Flash, psia	34.8
Dry Bulb Temp., F	105.0
Wet Bulb Temp., F	80.0
Cooling Tower Cells	20
Net Output,MW	200

Figure 2c

REV.	DESCRIPTION		
D	DATA REVISION	ml	12-16-04
C	DELETE ONE CLARIFIER TRAIN; 190 MW DATA	wel	12-2-04
B	GENERAL REVISION	JRB	4-18-02
A	ISSUED FOR REVIEW	JRB	3-15-02

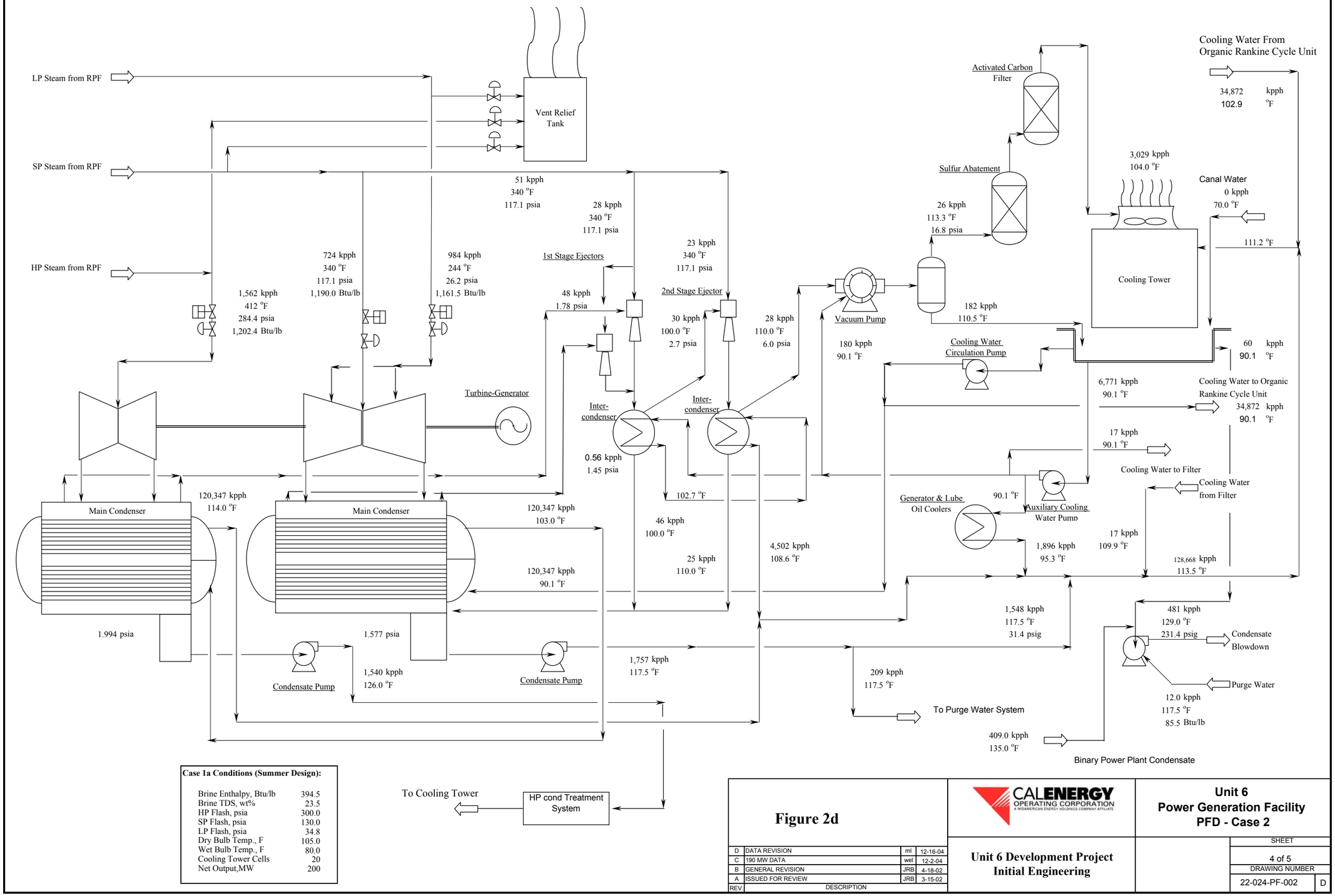
CALENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE

Unit 6 Development Project
Initial Engineering

Unit 6
Resource Production Facility
Reactor-Clarifier PFD

SHEET 3 of 5

DRAWING NUMBER 22-024-PF-002 D



Case 1a Conditions (Summer Design):

Brine Enthalpy, Btu/lb	394.5
Brine TDS, wt%	23.5
HP Flash, psia	300.0
SP Flash, psia	130.0
LP Flash, psia	34.8
Dry Bulb Temp., F	105.0
Wet Bulb Temp., F	80.0
Cooling Tower Cells	20
Net Output,MW	200

Figure 2d

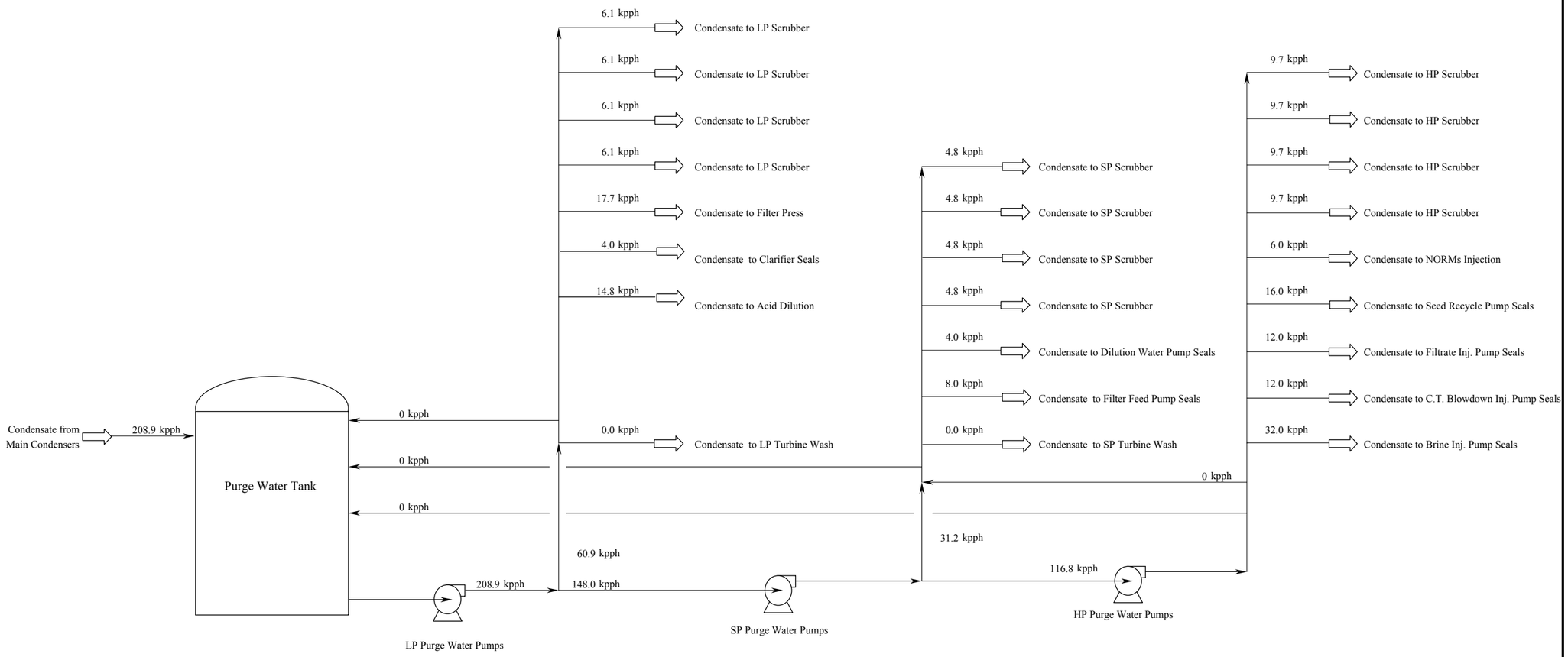
REV.	DESCRIPTION		
D	DATA REVISION	ml	12-16-04
C	190 MW DATA	wel	12-2-04
B	GENERAL REVISION	JRB	4-18-02
A	ISSUED FOR REVIEW	JRB	3-15-02

CALENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE

Unit 6
Power Generation Facility
PFD - Case 2

Unit 6 Development Project
Initial Engineering

SHEET
4 of 5
DRAWING NUMBER
22-024-PF-002 D



Case 1a Conditions (Summer Design):

Brine Enthalpy, Btu/lb	394.5
Brine TDS, wt%	23.5
HP Flash, psia	300.0
SP Flash, psia	130.0
LP Flash, psia	34.8
Dry Bulb Temp., F	105.0
Wet Bulb Temp., F	80.0
Cooling Tower Cells	20
Net Output,MW	200.0

Figure 2e

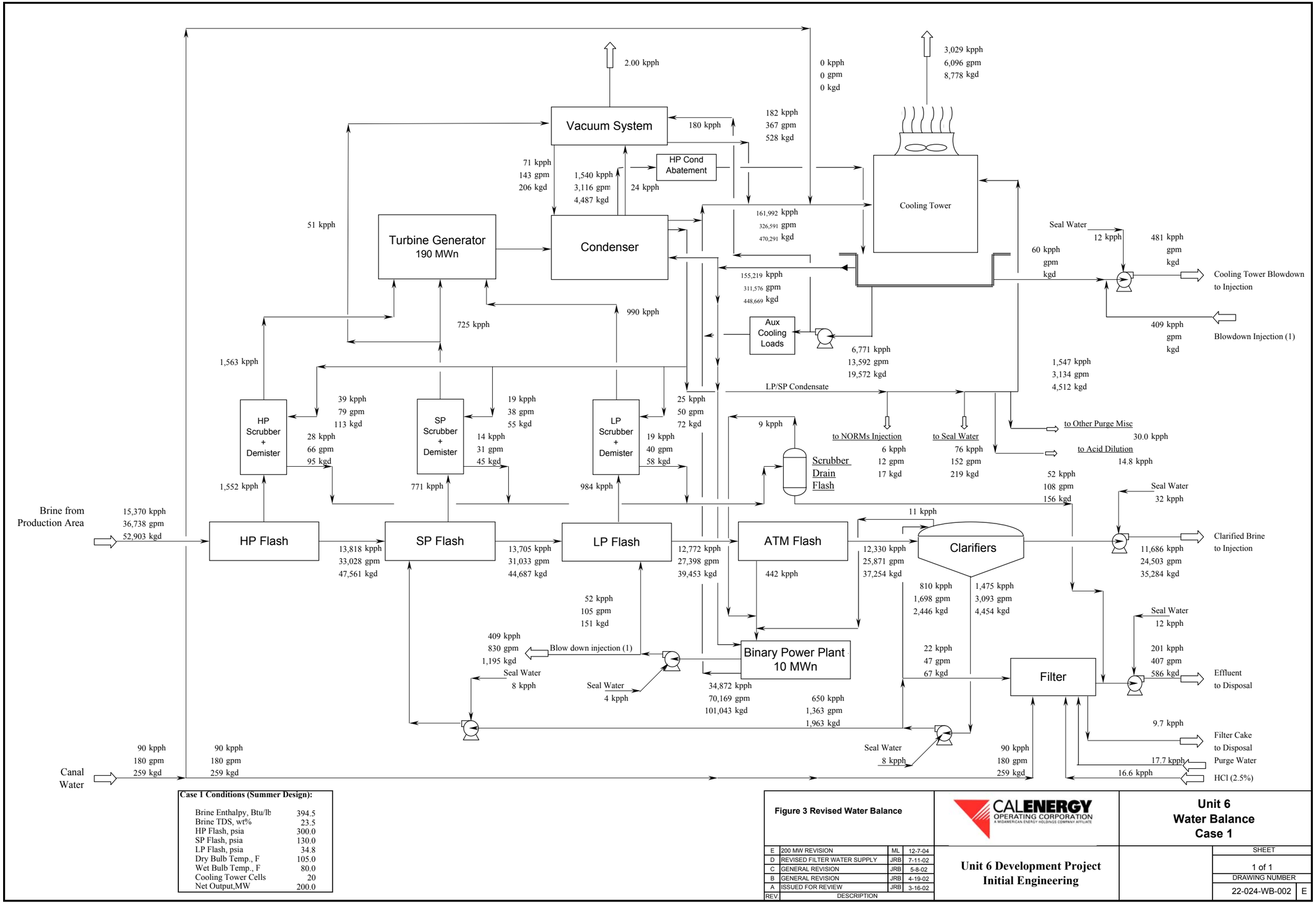
REV.	DESCRIPTION		
D	DATA REVISION	ML	12-16-04
C	200 MW REVISION	ML	12-8-04
B	GENERAL REVISION	JRB	4-18-02
A	ISSUED FOR REVIEW	JRB	3-15-02

CALENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE

Unit 6 Development Project
Initial Engineering

Unit 6
Purge Water System
PFD

SHEET
5 of 5
DRAWING NUMBER
22-024-PF-002 B



Case 1 Conditions (Summer Design):

Brine Enthalpy, Btu/lb	394.5
Brine TDS, wt%	23.5
HP Flash, psia	300.0
SP Flash, psia	130.0
LP Flash, psia	34.8
Dry Bulb Temp., F	105.0
Wet Bulb Temp., F	80.0
Cooling Tower Cells	20
Net Output,MW	200.0

Figure 3 Revised Water Balance

CALENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE

Unit 6 Water Balance Case 1

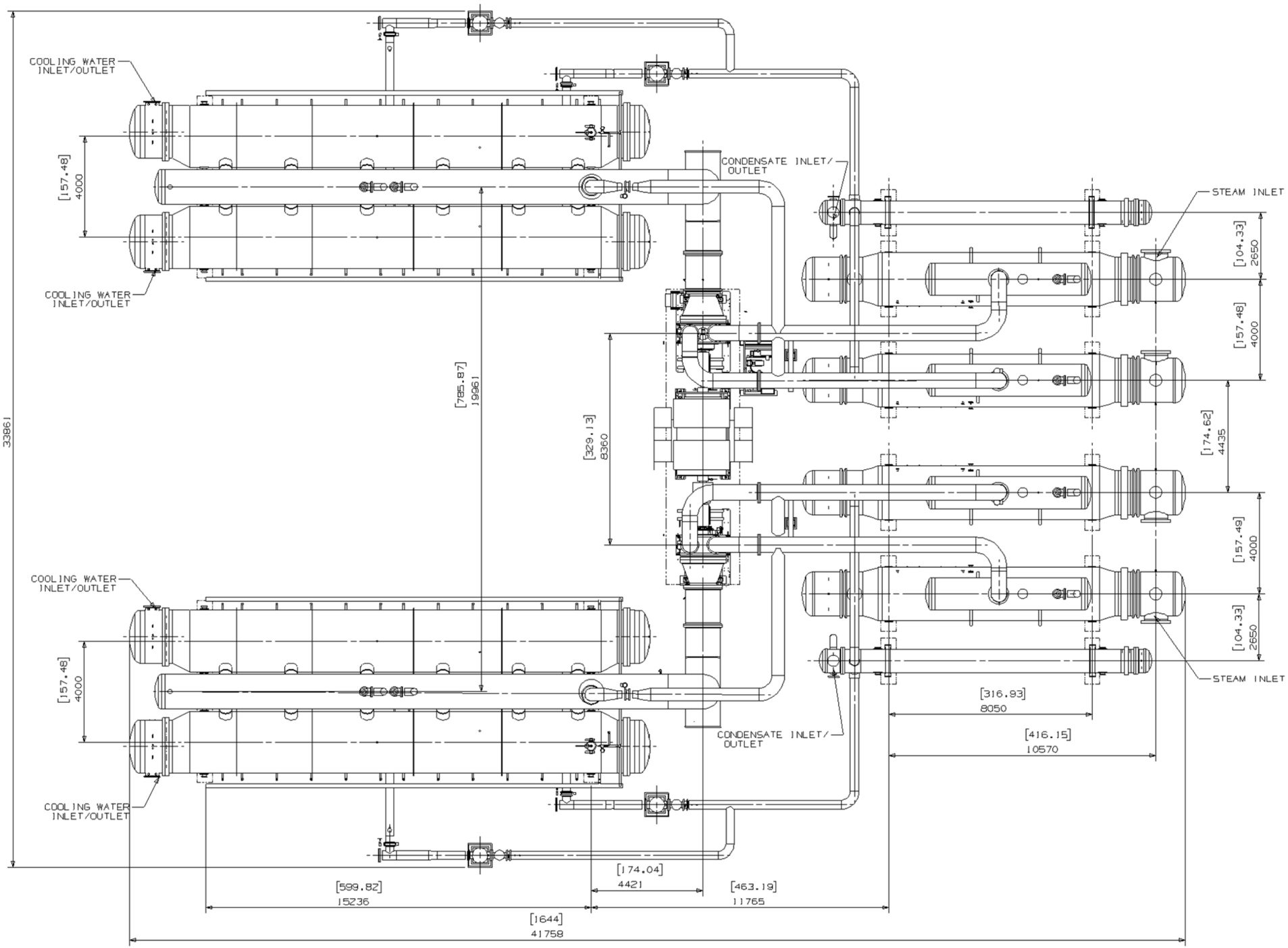
REV	DESCRIPTION		
E	200 MW REVISION	ML	12-7-04
D	REVISED FILTER WATER SUPPLY	JRB	7-11-02
C	GENERAL REVISION	JRB	5-8-02
B	GENERAL REVISION	JRB	4-19-02
A	ISSUED FOR REVIEW	JRB	3-16-02

Unit 6 Development Project
Initial Engineering

SHEET 1 of 1

DRAWING NUMBER 22-024-WB-002 E

LOCATION	DATE	APP.	REVISIONS	LTR.
	DEC07.04	AG	GENERAL UPDATES	A



NOTES:

	APPROVED:	ORMAT®	TITLE: SALTON SEA GEOTHERMAL Figure 4 Organic Rankine Cycle Plot Plan	
	CHECKED:	THIS DRAWING IS THE PROPERTY OF ORMAT AND MUST NOT BE COPIED OR REISSUED WITHOUT PERMISSION		
Q.C.:	DRAWN: AG DEC08.04		DRAWING NO: 0.002.91.580.0	SCALE: / REV: A

2.1.4 Increase in the Electrical Transmission Lines Voltage

The output of the steam turbine generator is connected by isolated phase bus to a two-winding, oil-filled 16/230 kV steam turbine main step-up transformer (previously 16/161 kV). Surge arrestors around the high-voltage bushings protect the transformer in the 230 kV system (previously 161 kV) from lightning strikes or other disturbances. The transformer is set on a concrete pad with an oil containment system. A fire protection system is provided. The high voltage side of the main step-up transformer is connected to a 230 kV (previously 161 kV) switchyard using 230 kV-rated (previously 161 kV-rated) high-voltage circuit breakers with associated disconnect switches.

The single-pole steel transmission structures ranging from 100 to 125 feet high will be used for both the L-Line and Midway interconnections. Approximately 132 structures spaced 800 to 1,200 feet apart would be necessary for both lines, depending on final design. The phase conductors will be arranged vertically in accordance with General Order 95 minimal spacing and clearance requirements.

Interconnection Agreement

An amended interconnection agreement was executed with the Imperial Irrigation District on September 21, 2004 in order to accommodate a larger net output generation associated with the increased steam flow through the steam turbine generator set (up to 205 MW net). The amended interconnection agreement is provided in Appendix 1. After the interconnection agreement was amended, an additional ORC system was added to the process providing up to 10 MW, for a total of 215 MW net. In order to assess any potential impact associated with the addition of an ORC unit to the project, a system impact study was triggered with the Imperial Irrigation District and results are expected by February 2005. The following mitigation mechanism is imbedded in the interconnection agreement:

"…

9.4 System Upgrades.

If as a result of an Interconnection Study it is determined that upgrades are required to be made to the Transmission System as a direct result of CEOE's request for interconnection of its Facility, the cost responsibility for such upgrades will be evaluated and determined as part of CEOE's request to interconnect its Facility with the Transmission System and in conjunction with a request for Transmission Service.

9.4.1 Cost Responsibility.

CEOE will be responsible to pay for the costs of upgrades determined to be necessary to interconnect the Facility to the Transmission System.

9.4.2 Transmission Credits.

IID shall determine what portion of such system upgrades provide benefit to the Transmission System and identify the costs associated with these upgrades. Upon CEOE securing Transmission Service (either firm or non-firm) from IID for delivery of capacity and/or energy from CEOE's Facility, a transmission credit shall be allowed. CEOE may transfer or assign such credits to another entity.

…"

Due to the relatively low incremental capacity, the conductor line increase from 161 to 230 kV and the existing mitigation mechanism provided for in the amended interconnection agreement with the Imperial Irrigation District, it is not anticipated that the proposed changes will result in any significant impact associated with the linear facilities and interconnection to the grid. Results from the ongoing system impact study provided by the Imperial Irrigation District will be provided by February 2005 to CEC staff to confirm that no significant impact is associated with the increase in capacity.

Because the transmission corridors remain unchanged for both the L-Line and IID Midway interconnections, the single-pole steel structure height remains within a range from 100 to 125 feet and the same number of structures (approximately 132 for both lines) remain spaced at he same interval (800 to 1,200 feet apart) no significant impact on wildlife is expected from the proposed changes.

An analysis of the electromagnetic force (EMF) impacts associated with this proposed change is being prepared and will be forwarded to the CEC when available.

2.1.5 Elimination of Redundant Equipment

In order to minimize project costs and increase operational efficiency, several redundant pieces of equipment are proposed to be eliminated with no impact on worker's safety and/or reliability. These include one primary and one secondary clarifier, and one of the two vacuum belt filters. Redundant equipment was initially incorporated into the project during the initial design phase due to uncertainties in the design. Further development of design parameters has revealed that the removal of these pieces of equipment is not expected to affect the project's ability to meet contractual generation capacity.

The original project design for the clarifiers included two 50 percent capacity clarifier trains with four 50 percent underflow, primary seed recycle, and secondary seed recycle pumps. The proposed design includes one 100 percent clarifier train with two 100 percent underflow, and two 100 percent primary and secondary seed recycle pumps.

The original design for the filter presses included two 100 percent units, including unloading conveyance systems. The proposed design includes one 100 percent filter press and unloading conveyance system.

2.1.6 Cooling Tower Redesign

The increase electric generation results in an increase in heat reject demand for the project. As a result, a change in the cooling tower design is proposed. The cooling tower approved in the original certification was a cross flow design with a recirculation rate of 260,000 gpm. The proposed cooling tower is a counter flow design with a recirculation rate of 323,635 gpm which is slightly larger at 60 feet wide, 540 feet long, and 58 feet tall (to the top of the fan shrouds), but is designed with the same number of cells (ten).

2.1.7 Addition of an Atmospheric Flash Tank Vent

The elimination of the DWH stacks requires the incorporation of a 40 foot steam vent exhaust stack on each the AFTs in the event of a situation requiring the release of steam at the Salton Sea Unit 6 site plant. Therefore, emergency vent stacks have been incorporated into the Atmospheric Flash Tanks to accommodate this need. These stacks would be approximately 40 feet above grade and would only be expected to be used during emergency shutdowns to vent the steam generated by the process. The stacks are anticipated to be 66 feet tall and 10 feet in diameter.

2.1.8 Chemical Hydrogen Sulfide Abatement System

The oxidizer box H_2S emission reduction system is being replaced with a chemical abatement system that will result in greater overall efficiency and operational reliability. The chemical abatement units consist of two covered basins measuring 50 feet by 80 feet each. The chemical abatement system will enable hotwell condensate to oxidize H_2S into sulfates by the addition of air, hydrogen peroxide, and Tower Brom 991 (or an equivalent chemical). (For more information on these chemicals, see Section 3.12 – Hazardous Materials Handling.) The Tower Brom will be stored in a hopper with a storage capacity of approximately 3,000 pounds of dry material, located above a 2,000 gallon mixing tank. The water used for mixing will be condensate and not fresh water. The Tower Brom (in tablet form) will be mixed with water for addition to the chemical abatement system. The hydrogen peroxide will be stored in a 5,000-gallon fiberglass storage tank. These chemicals will be added to the cooling tower basins to facilitate the oxidization of the H_2S and reduce emissions.

Two blowers will introduce air into the chemical abatement system to provide a source of oxygen and to provide adequate mixing through approximately 2,350 fine bubble diffusers per basin, with each fine bubble diffuser capable of delivering 15 cubic feet per minute at 5 pounds per square inch. The system will oxidize H_2S into a sulfate form, which will be suspended in the condensate, that will be directed to the cooling tower basins. The system is expected to have an overall H_2S control efficiency of greater than 90 percent.

2.1.9 Increased Project Site Area

Due to the changes to the project design, the project site will require additional space to allow for maintenance activities and to provide for additional buffer around the project site. The site was licensed at 80 acres, and is being proposed to increase along the southern boundary by 328 feet (or 19.4 acres) for a total plant site size of 100 acres. This will require the use of an additional 20 acres of CEOE's parcel, and will require additional biological and farmland mitigation.

2.2 Necessity of Proposed Change

Section 1769 (a)(1)(B) and 1769(a)(1)(C) of the CEC Siting Regulations require a discussion of the necessity for the proposed changes to the project and whether this modification is based on information that was known by the petitioner during the certification proceeding. During the licensing period, the changes to the project design proposed in this amendment were not known. These changes reflect additional engineering performed by contractors bidding on the

engineering, procurement, and construction contract. The proposed changes will allow CEOE to minimize construction costs on a dollar per kilowatt installed basis, increase revenue generation, and increase operational efficiently and reliability of the facility.

3.0 Environmental Analysis of the Project Changes

The proposed project change set forth in this Amendment will allow CEOE to minimize construction costs, increase revenue generation, and increase operational efficiency and reliability of the facility. The changes do not result in any significant environmental impacts. An analysis of each of the environmental areas is presented below for the proposed Amendment.

3.1 Air Quality

This section reviews the potential air quality impacts associated with the proposed changes to the project description relative to the air quality impacts identified in the Commission Decision. The following areas were reviewed:

- Construction
- Operations
- Temporary Activity
- Commissioning
- Mitigation Measures
- Cumulative Impacts
- Environmental Justice
- Compliance with LORS
- Facility Closure
- Conclusions

3.1.1 Proposed Emissions

3.1.1.1 Construction Emissions

Proposed modifications with the potential to affect air quality impacts due to construction activities include:

- Increased emissions associated with the drilling of two additional wells, including truck and traffic activities,
- Inclusion of emissions from pile driving equipment associated with incremental scope,
- Decreased PM_{10} emissions from construction equipment due to the application of Tier 1 Diesel Engine Emissions Standards, and
- Increased fugitive emissions due to a 100-meter southerly expansion of the plant site.

Air Quality Tables 10R through 12R summarize the revised levels of Criteria Pollutants generated from construction activities as a result of the proposed design changes.

AIR QUALITY TABLE 10R
SSU6 Project Estimated Maximum Hourly Construction Emissions
For the Power Plant, Pipelines, and Transmission Lines, lb/hr

Source	NOX	CO	VOC	SOX	PM10	NH3	H2S
Construction Equipment	26.4	19.8	3.82	0.48	1.14	—-	—-
Delivery Trucks	10.69	3.16	0.83	0.10	0.35	—-	—-
Worker Travel	7.62	89.31	9.72	0.06	0.20	—-	—-
Fugitive Dust	—-	—-	—-	—-	11.6	—-	
Sub-Total*	41.0	108.3	13.4	0.60	13.2	—	—-
Well Drilling	25.97	3.17	0.36	0.73	1.07	—-	—-
Well Flow Testing	—-	—-	0.46	—-	64.8	47.2	11.8
Total	67	111	14.2	1.3	79.1	47.2	11.8

Detailed calculations located in Appendix 2, Table G-1R through G-1.6R (fugitive dust), G-2R (well drilling), G-3R to G-3.11R (construction equipment, worker travel, and delivery trucks), and G-4R (well flow testing)

* Subtotal represents highest hourly emission occurring during any one month

AIR QUALITY TABLE 11R
SSU6 Project Estimated Maximum Daily Construction Emissions
For the Power Plant, Pipelines, and Transmission Lines, lb/day

Source	NO_X	CO	VOC	SO_X	PM_{10}	NH_3	H_2S
Construction Equipment	211.4	158	30.6	3.9	9.08	—-	—-
Delivery Trucks	85.5	25.3	6.61	0.78	2.82	—-	—-
Worker Travel	60.94	714	77.8	0.46	1.62	—-	—-
Fugitive Dust	—-	—-	—-	—-	117	—-	
Sub-Total*	327.8	866	107	4.9	130	—	—-
Well Drilling	623.3	76.08	8.64	17.52	25.68	—-	—-
Well Flow Testing	—-	—-	11.1	—-	1,555	1,133	283
Total	951	942	127	22.4	1,711	1,133	283

Detailed calculations located in Appendix 2, Table G-1R through G-1.6R (fugitive dust), G-2R (well drilling), G-3R to G-3.11R (construction equipment, worker travel, and delivery trucks), and G-4R (well flow testing)

* Subtotal represents highest hourly emission occurring during any one month

AIR QUALITY TABLE 12R
SSU6 Project Estimated Maximum Annual Construction Emissions
For the Power Plant, Pipelines, and Transmission Lines, tons/year

Source	NO_X	CO	VOC	SO_X	PM_{10}	NH_3	H_2S
Construction Equipment	23.3	17.0	3.3	0.4	0.98	—-	—-
Delivery Trucks	7.13	2.11	0.551	0.065	0.234	—-	—-
Worker Travel	6.32	74.1	8.06	0.05	0.17	—-	—-
Fugitive Dust	—-	—-	—-	—-	13.75	—-	—-
Sub-Total	36.75	93.21	11.9	0.54	15.1	—	—-
Well Drilling	139	17.0	1.91	3.90	5.73	—-	—-
Well Flow Testing	—-	—-	0.25	—-	32.3	26.1	5.37
Total	175.75	110.2	14.0	4.4	53.2	26.1	5.37

Detailed calculations located in Appendix 2, Table G-1R through G-1.6R (fugitive dust), G-2R (well drilling), G-3R to G-3.11R (construction equipment, worker travel, and delivery trucks), and G-R4 (well flow testing)

The table nomenclature corresponds to the tables in the Final Staff Assessment.

The total construction emissions do not change significantly for the hourly and daily rates, and change only marginally for the annual rates. Added activities do not occur during the peak periods of construction. Pile driving occurs at the beginning of construction and well drilling occurs near the end, while the overall peak construction period occurs near the middle of the construction timetable.

3.1.1.2 Operating Emissions

Proposed modifications with potential to affect air quality impacts due to the revised operational activities include:

- Increase in emissions due to increasing the brine flow to a maximum of 15.4 million pounds per hours (pph) from 12.8 million pph, previously
- Revision of the H_2SNCG/condensate partition to 60/40 from 80/20, (this means that 60 percent of the H_2S contained in the steam goes to the NCG stream while the remaining 40 percent stays with the condensate stream).
- Replacement of the oxidizer box biological technology with a chemical abatement of the high pressure condensate,
- Increase in PM_{10} emissions due to the increased circulation rate of cooling tower water (drift control efficiency remains at 0.0005 percent)
- Change in the offgassing of emissions from NCG and condensate to take place only at the first cooling tower cell,
- Elimination of the dilution water heater emissions with the implementation of a ORC unit, and
- Increase in VOC emissions due to the addition of a ORC unit.

Air Quality Tables 13R through 15R summarize the revised levels of Criteria Pollutants generated from operational activities as a result of the proposed design changes.

AIR QUALITY TABLE 13R
SSU6 Project Maximum Hourly Emissions, lb/hr

Operational Source	NO_X	CO	VOC	SO_X	PM_{10}	NH_3	H_2S
Cooling Tower – NCG	—-	—-	0.47	—-	—-	0.14	0.673
Cooling Tower – Offgassing	—-	—-	—-	—-	—-	856	4.56
Cooling Tower – Drift	—-	—-	—-	—-	3.62	0.0008	—-
ORC System	—-	—-	0.961	—-	—-	—-	—-
Filter Cake Silica	—-	—-	—-		0.0077	—-	—-
Filter Cake Sulfur	—-	—-	—-	—-	5.3E-5	—-	—-
EG-480 Engine	—-	—-	—-	—-	—-	—-	—-
EG-4160 Engine	34.24	2.19	0.82	1.15	0.65	—-	—-
Fire Pump Engine	—-	—-	—-	—-	—-	—-	—-
Operation & Maintenance (O&M) Equipment	5.49	29.55	1.70	0.27	0.063	—-	—-
O&M Fugitive Dust	—-	—-	—-	—-	0.078	—-	—-
Total Maximum Hourly Emissions (lb/hr)	39.73	31.74	3.95	1.42	4.42	856	5.23

Detailed calculations located in Appendix 2, Table G-6R through G-13R

AIR QUALITY TABLE 14R
SSU6 Project Estimated Maximum Daily Emissions, lb/day

Operational Source	NO_X	CO	VOC	SO_X	PM_{10}	NH_3	H_2S
Cooling Tower – NCG	—-	—-	11.3	—-	—-	3.36	16.2
Cooling Tower – Offgassing	—-	—-	—-	—-	—-	20,544	109.4
Cooling Tower – Drift	—-	—-	—-	—-	86.9	—-	—-
ORC System	—-	—-	23.1	—-	—-	—-	—-
Filter Cake Silica	—-	—-	—-	—-	0.062	—-	—-
Filter Cake Sulfur	—-	—-	—-	—-	0.00128	—-	—-
EG-480 Engine	—-	—-	—-	—-	—-	—-	—-
EG-4160 Engine	34.24	2.19	0.82	1.15	0.65	—-	—-
Fire Pump Engine	—-	—-	—-	—-	—-	—-	—-
Operation & Maintenance (O&M) Equipment	43.90	236.41	13.58	2.18	0.50	—-	—-
O&M Fugitive Dust	—-	—-	—-	—-	1.87	—-	—-
Total Maximum Hourly Emissions (lb/hr)	78.14	238.60	48.8	3.33	89.97	20,547	125.6

Detailed calculations located in Appendix 2, Table G-6R through G-13R

AIR QUALITY TABLE 15R
SSU6 Project Estimated Maximum Annual Average Emissions, tons/year

Operational Source	NO_X	CO	VOC	SO_X	PM_{10}	NH_3	H_2S
Cooling Tower – NCG	—-	—-	2.07	—-	—-	0.62	2.95
Cooling Tower – Offgassing	—-	—-	—-	—-	—-	3,225	20
Cooling Tower – Drift	—-	—-	—-	—-	15.9	0.0035	—-
ORC System	—-	—-	4.21	—-	—-	—-	—-
Filter Cake Silica	—-	—-	—-		0.0017	—-	—-
Filter Cake Sulfur	—-	—-	—-	—-	3.5E-5	—-	—-
EG-480 Engine	0.2	0.01	0.002	0.01	0.0015	—-	—-
EG-4160 Engine	1.7	0.11	0.04	0.06	0.03	—-	—-
Fire Pump Engine	0.2	0.01	0.003	0.01	0.002	—-	—-
Operation & Maintenance (O&M) Equipment	1.68	11.0	0.59	0.35	0.0235	—-	—-
O&M Fugitive Dust	—-	—-	—-	—-	0.338	—-	—-
Total Maximum Hourly Emissions (lb/hr)	3.78	11.13	6.92	0.43	16.3	3,226	22.95

Detailed calculations located in Appendix 2, Table G-6R through G-13R

The increased emissions are basically a function of the increased brine flow rate by slightly more than twenty percent. Note that no emission changes are anticipated for operations and maintenance activities, the emergency generators and the fire pump.

3.1.2 Temporary Activity - Well Rework/New Well Drilling

Drilling emissions are expected to increase because of the addition of one production well and one injection well. The SSU6 Project was licensed with ten production wells and nine injection wells for a total of nineteen wells. With this amendment, the total number of proposed wells will be twenty-one, representing a 10.5 percent increase in the number of wells (11 production and 10 injection wells). The short term emissions associated with reworking and/or drilling new wells are not expected to change because only one drilling rig would be present at a time. The annual emissions would be expected to increase by 10 percent. Therefore, the annual emissions are now based on 55 days of drilling each year (versus 50 estimated earlier) in order to account for the increased number of wells.

Air Quality Table 16R summarizes the revised well drilling emissions at the Salton Sea Unit 6 Geothermal Project Site.

AIR QUALITY TABLE 16R
SSU6 Project Estimated Well Rework/New Well Drilling Emissions

	NO_X	CO	VOC	SO_X	PM_{10}
Pounds Per Hour Per Well	25.97	3.17	0.36	0.73	1.07
Annual Emissions (tpy)	7.59	0.93	0.10	0.21	0.313

Detailed calculations located in Appendix 2, Table G-2R (well drilling)

3.1.3 Temporary Activity - Well Flow Activities

Well flow activities are expected to increase because of the addition of one production well and one injection well. It was previously estimated that 232 hours of production well flow testing was necessary. This estimate was based on three coil cleanings (144 hours); two warm-ups per ten wells (40 hours), and one redrill (48 hours). With the proposed changes, the total hours of well flow activities would be 284 based on three coil cleanings (144 hours), two warm-ups per 11 wells (44 hours), one re-drill (48 hours), and one re-drill or coil cleaning (48 hours).

Fifty-four hours were estimated for injection well flow operation (3 wells × 18 hours/well). With these changes, the hours would now total 72 (4 wells × 18 hours/well). Note that while there are 10 injection wells, only four wells a year would need to be flowed back during maintenance operations.

Air Quality Table 17R summarizes the revised emissions resulting from well flow activities at the Salton Sea Unit 6 Geothermal Project Site.

AIR QUALITY TABLE 17R
SSU6 Project Estimated Well Flow Run Emissions

	VOC	PM_{10}	NH_3	H_2S
Production Well (lb/hr)	0.46	64.8	47.2	11.8
Injection Well (lb/hr)	0.46	41.0	47.2	3.9
Annual Emissions (tpy)	0.07	10.7	8.4	1.8

Detailed calculations located in Appendix 2, Table G-14R

3.1.4 Temporary Activity - Steam Vent Tanks

Emissions from steam venting have increased slightly due to the change in cooling tower design, which are offset by the deletion of the dilution water heaters vent stacks.

Air Quality Table 18R summarizes the revised levels of vent relief tank emissions at the Salton Sea Unit 6 Geothermal Project Site.

AIR QUALITY TABLE 18R
SSU6 Project Estimated Vent Relief Tank Emissions During Venting

	VOC	PM_{10}	NH_3	H_2S
Vent Relief Tanks (total lbs/hr	4.28	2.87	86	17.7
Cooling Tower (lbs/hr)	0.39	3.62	626	2.25
Annual Emissions (tpy)	0.12	0.16	17.8	0.50

Detailed calculations located in Appendix 2, Table G-15R

3.1.5 Temporary Activity - Plant Startup

Because of the addition of one production well, plant startup annual emissions are expected to increase.

Air Quality Table 19R summarizes the revised levels of plant startup emissions at the Salton Sea Unit 6 Geothermal Project Site.

AIR QUALITY TABLE 19R
SSU6 Project Estimated Startup Emissions

	VOC	PM_{10}	NH_3	H_2S
Production Test Unit (lbs/hr)	0.46	64.8	47.2	11.8
100% Vent Relief Tanks (total lbs/hr)	5.15	3.45	103.5	21.3
100% Cooling tower (lbs/hr)	0.47	3.62	857	5.2
Annual Emissions (tpy)	0.02	1.65	7.92	0.34

Detailed calculations located in Appendix 2, Table G-16R

3.1.6 Temporary Activity – Atmospheric Flash Tank Emissions

The ORC unit condenses the steam release from the atmospheric flash tank (AFT). The dilution water heater plume and associated emissions will be eliminated by condensing that steam of low-pressure steam via the vaporizers of the ORC unit. The condensate is injected at a plant injection well. The ORC system is capable of condensing the steam stream from the AFT even during certain conditions when one or both of the ORC unit turbines are off line. This means that the system is designed to by-pass the ORC unit turbine generator and operate as a heat exchanger between the steam flow and the cooling tower flow. However, if one of the four ORC unit vaporizers must be placed out of service for emergency reasons (e.g., a tube leak), a steam release would occur at the AFT system. Maintenance of the ORC unit will be scheduled during regular steam turbine generator overhauls to minimize emergency shut downs.

Air Quality Table 19A summarizes these temporary emissions at the Salton Sea Unit 6 Geothermal Project Site.

AIR QUALITY TABLE 19A
SSU6 Project Estimated Atmospheric Flash Tank Emissions

	PM_{10}	NH_3	H_2S
AFT (lbs/hr)	13.6	39.80	0.816
Annual Emissions (tpy)	0.34	0.99	0.02

Detailed calculations located in Appendix 2, Table G-9R

3.1.7 Commissioning Emissions

Total commissioning emissions are expected to increase slightly due to the addition of one production well. Air Quality Table 21R summarizes the revised levels of criteria pollutants associated with commissioning at the Salton Sea Unit 6 Geothermal Project Site.

AIR QUALITY TABLE 21R
Estimated Power Plant Commissioning Emissions

Source	Emissions Rate	Hours per Period	VOC (lb/hr)	PM_{10} (lb/hr)	H_2S (lb/hr)	NH_3 (lb/hr)
PTU	100%	180	0.46	64.8	11.8	47.2
Vent Relief Tanks (total)	100%	77.49	3.72	6.83	190	712
Cooling Tower	100%	71.82	0.39	3.62	4.32	712
Steamblow	31.5% of full VRT rates	72	2.35	0.717	19.99	82.53
Total (tons/period)	**—-**	**—-**	**0.3**	**6.25**	**9.3**	**58.4**

Detailed calculations located in Appendix 2, Table G-5R through G-5.6R

3.1.8 Air Quality Impacts

Because air quality impacts are directly proportional to the changes in emission rates, CE Obsidian Energy proposes to use proportionality for those cases where there are no significant changes to the stack parameters as a conservative means of estimating the air quality impacts due to the proposed changes. In cases where there have been significant stack parameter changes, new dispersion air modeling was performed.

3.1.8.1 Construction

Air Quality Table 22R summarizes the revised emissions levels for on-site facilities construction, well drilling and well flow impacts at the Salton Sea Unit 6 Geothermal Project Site.

No significant changes are noted.

AIR QUALITY TABLE 22R
Applicant Construction Modeling Results

Pollutant	Averaging Period	Proportionality Factor	Project Impact ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	Limiting Standard ($\mu g/m^3$)	Type of Standard	Percent of Standard (%)
NO_2	1-Hour	NC	268	180	448	470	CAAQS	95
	Annual	176/158	5.8	19	24.8	100	NAAQS	25
PM_{10}	24-Hour	NC	39*	115	154	50	CAAQS	308
	Annual Arith. Mean	53.2/49.6	5.0*	48.6	53.6	20	CAAQS	268
CO	1-Hour	NC	193	8,000	8,193	23,000	CAAQS	36
	8-Hour	NC	111	4,000	4,111	10,000	CAAQS	41
SO_2	1-Hour	NC	19	73	92	655	CAAQS	14
	3-Hour	NC	12	63	75	1,300	NAAQS	6
	24-Hour	NC	5.5	47	52.5	105	CAAQS	50

	Annual	4.4/4.0	0.22	5	5.2	80	NAAQS	7
H_2S	1-Hour	NC	16.2	24.6	40.8	42	CAAQS	97

NC = no change
* = Used CEC modeling results – Air Quality Table 23 FSA Part 2

3.1.8.2 Operations

Air Quality Table 24R summarizes the revised emissions levels for on-site operations impacts at the Salton Sea Unit 6 Geothermal Project Site.

No significant changes in emissions are noted.

AIR QUALITY TABLE 24R
Applicant Operation ISC Modeling Results

Pollutant	Averaging Period	Proportionality Factor	Project Impact (µg/m^3)	Background Concentration (µg/m^3)	Total Impact (µg/m^3)	Limiting Standard (µg/m^3)	Type of Standard	Percent of Standard (%)
NO_2	1-Hour	NC	209	180	389	470	CAAQS	83
	Annual	1.68/1.6	0.53	19	19.5	100	NAAQS	20
PM_{10}	24-Hour	Modeled[a]	3.4	115	118.4	50	CAAQS	237
	Annual Arith. Mean	Modeled[a]	0.27	48.9	49.2	20	CAAQS	246
CO	1-Hour	NC	1,121	8,000	9,121	23,000	CAAQS	40
	8-Hour	NC	458	4,000	4,458	10,000	CAAQS	45
SO_2	1-Hour	NC	22	73	95	655	CAAQS	15
	3-Hour	NC	16	63	79	1,300	NAAQS	6
	24-Hour	NC	7.0	47	54	105	CAAQS	51
	Annual	NC	0.08	5	5.1	80	NAAQS	6
H_2S	1-Hour	Modeled[b]	16.4	24.6	41	42	CAAQS	98

NC = no change
[a] Refer to Appendix 2, Table G-23R
[b] Refer to Appendix 2, Table G-27R

3.1.8.3 Temporary Activities

Air Quality Table 25R summarizes the revised emissions levels for on-site temporary operations impacts at the Salton Sea Unit 6 Geothermal Project Site.

No significant changes in emissions are noted.

3.1.8.4 Commissioning

Air Quality Table 27R summarizes the revised emissions levels for the commissioning period at the Salton Sea Unit 6 Geothermal Project.

AIR QUALITY TABLE 27R
Commissioning Modeling Analysis Results

Pollutant	Averaging Period	Proportionality Factor	Project Impact (µg/m^3)	Background Concentration (µg/m^3)	Total Impact (µg/m^3)	Limiting Standard (µg/m^3)	Type of Standard	Percent of Standard (%)

PM_{10}	24-Hour	NC	16	115	131	50	CAAQS	262
H_2S	1-Hour	NC	78.5	24.6	103.1	42	CAAQS	245

NC = no change

AIR QUALITY TABLE 25R
Applicant's Temporary Activities ISC Modeling Results

Pollutant	Source	Averaging Period	Proportionality Factor	Project Impact ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	Limiting Standard ($\mu g/m^3$)	Type of Standard	Percent of Standard (%)
NO_2	Well Rework	1-Hour	NC	236	180	416	89	CAAQS	83
PM_{10}	Well Rework	24-Hour	NC	3.5	115	118.5	50	CAAQS	237
	Well Flow	24-Hour	NC	36	115	151	50	CAAQS	302
	Steam Vent Tanks	24-Hour	Modeled[a]	3.4	115	118.4	50	CAAQS	237
	Plant Startup	24-Hour	Modeled[a]	20.9	115	135.9	50	CAAQS	272
	AFT Release	24-Hour	Modeled[a]	10.9	115	125.9	50	CAAQS	252
CO	Well Rework	1-Hour	NC	82	8,000	8,082	23,000	CAAQS	35
	Well Rework	8-Hour	NC	31	4,000	4,031	10,000	CAAQS	40
SO_2	Well Rework	1-Hour	NC	18.9	73	91.9	655	CAAQS	14
	Well Rework	3-Hour	NC	12	63	75	1,300	NAAQS	6
	Well Rework	24-Hour	NC	2.4	47	49.4	105	CAAQS	47
H_2S	Well Flow	1-Hour	NC	16.2	24.6	40.8	42	CAAQS	97
	Steam Vent Tanks	1-Hour	Modeled[b]	14.5	24.6	39.1	42	CAAQS	93
	Plant Startup	1-Hour	Modeled[b]	16.9	24.6	41.5	42	CAAQS	99
	AFT Release	1-Hour	Modeled[b]	0.65	24.6	25.3	42	CAAQS	60

NC = no change

[a] Refer to Appendix 2, Table G-24R

[b] Refer to Appendix 2, Table G-28R

3.1.9 Mitigation Measures

Due to an overall increase in emissions from the project, additional offsets will be necessary. Table AR summarizes the revised offsets for the Salton Sea Unit 6 Geothermal Project. For operations, the H_2S offset amount has increased to 30.18 from 26.21 tons. For well testing, the H_2S offset amount has increased to 5.37 from 5.00 tons; while for PM_{10} the offset amount has increased to 32.3 from 29.8 tons. For commissioning, the H_2S offset amount has increased to 9.3 from 8.7 tons; while for PM_{10} the offset amount has increased to 6.25 from 5.63 tons.

TABLE AR

Source(s)	Offset Amount	Offset Source
SS Unit 6 (22.9 tpy) x 1.2 + temporary emissions (2.7 tpy) x 1	30.18 tons H_2S	Leathers LP 38 MWe Geothermal Power Plant (70 tons/yr H_2S uncontrolled) control with Biofilters, sparging or APCD approved system
Well Flow Testing (temporary)	5.37 tons H_2S 32.3 tons PM_{10}	H_2S from Leathers LP emission control PM_{10} from ERC Stationary or Ag Bank
SS Unit 6 PM_{10} (permanent) (Mitigation agreement July 24, 2003)	19.6 tons PM_{10}	ERC Stationary or Ag Bank
Commissioning (temporary)	9.3 tons H_2S 6.25 tons PM_{10}	H_2S from Leathers LP emission control PM_{10} from ERC Stationary or Ag Bank

3.1.10 Cumulative Impacts

No significant change to the original assessment of the cumulative impact is expected.

3.1.11 Compliance with LORS

The proposed Salton Sea Unit 6 Project will be in compliance with all applicable LORS regarding long-term and short-term project impacts.

3.2 Biological Resources

The impacts to biological resources from the proposed changes are limited to the addition of one production and one injection well on existing well pads with associated piping located on existing supports along the existing corridors and the increase in plant size. The impacts associated with the other proposed design changes will not result in any additional land disturbance or impacts (air, noise, water, and bird/transmission line strikes) at levels above those analyzed during the Commission proceedings. Noise and vibration impacts were a chief concern during the original licensing and based on the proposed project changes, no increase in noise or vibration levels are expected. In addition, due to the elimination of some

redundant equipment, operational noise impact may be reduced slightly and vibration impacts during construction may also be slightly reduced. Overall, the biological impacts associated with the additional wells and increase in the project site by 19.4 acres are analyzed below.

3.2.1 Additional Production and Injection Wells

The installation of one additional production and one injection well may not result in any additional habitat disturbances. The production well will be located on the OB-2 well pad that is located north of McKendry Road. Incorporating a new well on OB-2 will not require any additional land to be disturbed either during construction or operations. However, the duration of the well drilling activities will be extended by approximately 1 additional month on OB-2. The 2004 survey for Yuma Clapper Rail, Black Rail, and Mountain Plovers did not identify any of these species using McKendry Marsh, which is adjacent to OB-2 well pad. Nonetheless, the additional well drilling activities will be performed in compliance with the existing biological Conditions of Certification and the Biological Opinion issued by the US Fish and Wildlife Service.

The additional pipeline associated with the new production well may extend the construction of this pipeline string by approximately one week. No additional supports will be required for the pipeline, nor will the redesigned supports significantly increase the overall footprint of the licensed supports. Therefore, biological resource impacts associated with the construction of the new production and injection wells is not expected to be significant.

The injection well will be located on the SSU6 plant site and will not disturb any additional habitat not already analyzed by the Commission during licensing. Again, the well drilling activities onsite will be extended by approximately 1 month, and drilling will conform to the existing COCs and other regulatory requirements.

3.2.2 Increase in the Project Site Acreage

As the project site is bound on the northern side by McKendry Road, the southern boundary of the site will be extended south by 328 feet along the width of the project. The project was licensed for an 80 acre site, but due to operational/maintenance issues, is now being increased by 19.4 acres to a total of approximately 100 acres. Figure 1 shows the new project site. The additional 19.4 acres is part of CEOE's 160 acre parcel what was historically in agricultural production. This increase in plant site will result in the permanent loss of 19.4 acres of agricultural habitat that may provide foraging habitat for burrowing owls if occupying burrows within 300 feet of the plant site. As identified in Condition of Certification (COC) BIO-19 and 25, CEOE will conduct pre-construction surveys to determine the presence and location of burrowing owls within 1,000 feet of the project site and will provide burrowing owl compensation for the additional plant acreage at a rate of 0.5 acres per acre habitat permanently converted from foraging habitat.

3.2.2 Cumulative Impacts

The proposed project changes are not anticipated to result in any cumulative impacts not previously analyzed by the Commission during to licensing proceeding.

3.2.3 LORS

Overall, these proposed project changes may require a modification to the following biological resource related permits issued to the project. The proposed project changes will not result in violation of any LORS, nor will it be inconsistent with any adopted plans.

- Biological Opinion
- Imperial County Conditional Use Permit
- Clean Water Act Section 401 and 404 permits
- Waste Discharge Requirements
- Section 1603 Streambed Alteration Agreement

3.3 Cultural Resources

The proposed project design changes will result in the disturbance of approximately 20 acres (increasing the project site from 80 to approximately 100 acres) which was not analyzed by the Commission during the licensing proceeding. The changes are not expected to result in ground disturbing activities or result in a change in setting that had not been previously analyzed by the Commission. The following presents a discussion of the potential cultural resource impacts associated with the proposed changes.

The proposed addition of one production and one injection well will not require the acquisition or disturbance of additional land as the production well will be located on OB-2 well pad and the injection well will be located on the project site. These new wells will require additional piping to be installed, but for the injection well, this piping will be on the project site in entirety. The piping associated with the new production well will be routed along the existing pipeline route that was licensed by the CEC. No additional pipe supports will be required, but the horizontal supports may be slightly larger to support the additional load. Since no additional land will be disturbed, no additional in cultural resource impacts are expected over those previously considered by the Commission.

The elimination of one primary clarifier one secondary clarifier, and a filter press will not result in increase cultural resources impacts as no change in the project site dimensions are expected. The addition of the Organic Rankine Cycle unit and the chemical H_2S abatement system will be on a portion of the project site previously analyzed during the licensing process.

The increase in the electrical line voltage from 161 to 230 kV will not alter the electrical tower design, height, or placement and will not alter the number of conductors on each tower.

Additionally, the increase in electrical production is not expected to result in an increase the dimensions of any pieces of project equipment, or significantly change the project's appearance relative to the licensed appearance. Therefore, no impacts to cultural resources are expected due to the increased electrical production.

However, the increase in the project site will result in ground disturbances not specifically addressed in the Commission Decision. Increasing the project site size to the south of the previous site boundary will result in an additional 19.4 acres of agricultural land that is

disturbed. This area was included in the site surveys conducted in January 2002, and no cultural resources were identified. However, this surface survey would not identify subsurface cultural resources. Therefore, CEOE proposes to implement the measures contained in the Cultural Resource Conditions of Certification CUL-1 through CUL-11 to mitigate potential impacts to subsurface cultural resources.

The project as proposed is expected to comply with all applicable cultural resources LORS.

3.4 Land Use

The proposed changes to the project description will require an additional 20 acres of land not covered under Imperial County's Conditional Use Permit (CUP), or analyzed by the Commission during the initial proceeding. As indicated in the Final Staff Assessment, CEOE's 160-acre parcel does not have a land conservation contract, nor is it within a Williamson Act Preserve or a Farmland Security Zone. Additionally, the proposed design changes will comply with Imperial County's General Plan's Land and Geothermal and Transmission Elements.

The proposed changes will require a minor modification to the CUP's Authorized Scope of Activities section to reflect the increase in the number of production and injection wells (Condition S-1 (a), (c), and (d). Were the County the lead agency, it would conduct an environmental evaluation in order to revise the CUP. However, with the CEC acting as the lead agency for power plants, the environmental evaluation performed by the CEC will satisfy this requirement. CEOE has approached the Imperial County Planning Department to determine the steps and timing for a minor amendment to the CUP.

With the implementation of the CUP modification, the project will comply with all applicable LORS.

3.5 Noise

Proposed changes to increase the capacity of the Salton Sea Geothermal Unit 6 project from 185 MW to 215 MW are anticipated to have minimal or negligible impact on operational noise levels. The project will be designed and operated in accordance with the conditions of certification. A summary of the proposed changes with potential noise implications is listed below:

- Reduction in the number of brine injection pumps from four to three.
- Increase in cooling tower capacity from a 260,000 gpm cross flow tower design to a 323,635 gpm counter flow tower design; however, the overall sound impact level from the new cooling tower is anticipated to be similar to previous unit.
- Reduction in the primary and secondary clarifier systems from two trains to one. This results in an overall reduction of six pumps.
- Elimination of the dilution water heaters vent stacks.

- Change in the discharge of the atmospheric flash tanks from the atmosphere to the ORC unit. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints consist with Condition of Certification NOISE-6.
- Change in the routing of condensate to the air sparging condensate H_2S abatement system rather than to the cooling tower.

The ORC unit is expected to comply with a noise performance standard of 85 dBA at 3 feet (87 dBA at 3 feet from the generator and blower).

The Imperial County General plan defines a sensitive receptor to include biological receptors; as a result of OB-2's proximity to McKendry Marsh, the marsh is considered a sensitive receptor due to the potential presence of the federally protected Yuma Clapper rail. The FSA indicates that with the implementation of the seasonal drilling restrictions contained in the Biological Resources COC's, no adverse noise impacts to wildlife should occur due to well development activities (FSA, 4.6-9).

The proposed additional injection well will be located on the west side of the intersection of Gentry and Lindsay Roads and is approximately 2,000 feet from the nearest sensitive wildlife habitat (McKendry Marsh). As noted in the FSA, construction noise from the project site would result in levels at the wetland from 50 to 65 dBA (estimated at 1,500 feet based on the center point of the project site to the wetland area). Given the logarithmic nature of noise attenuation, well development activities for a new injection well would not be expected to exceed 65 dBA, and will more likely be closer to the 50 dBA level. At this noise level, noise impacts to wildlife are not expected. Furthermore, with the implementation of the Biological Resource COCs that restrict construction during critical breeding seasons, any remaining any potential impacts will be reduced to a greater extent.

The elimination of one primary clarifier, one secondary clarifier, and one of the two vacuum belt filters will not alter the construction noise level estimates used by the Commission during the licensing of the project and will not result in noise impacts above those analyzed in the Commission Decision.

The operational noise at the nearest human receptor site (the residence at the Wildlife Refuge headquarters) is not expected to exceed 39 dBA L_{eq} (FSA, page 4.6-14). The operation of the SSU6 Project with the higher brine flow rates is not expected to increase the sound pressure levels by more than 1 dBA. In addition, the operation of one additional production well and one injection wells is not expected to result in a significant increase in noise levels over those analyzed by the Commission. Furthermore, the piping associated with the proposed production and injection wells is expected to be inaudible during operations.

In general, these proposed changes are expected to result in a reduction of the number of pumps and motors. The additional generating capacity realized from the addition of the ORC unit is achieved while generally maintaining the 85 dBA at 3 feet requirement. Unanticipated noise emissions from the ORC unit should be easily remedied with localized barriers or acoustical lagging. CEOE is committed to designing and operating the plant in a manner that is consistent with the existing noise Conditions of Certification.

The project as proposed is expected to comply with all applicable noise LORS.

3.6 Public Health

This section reviews the potential changes to the health risk impacts reviewed in the AFC and in the CEC Staff's Final Staff Assessment (FSA) resulting from the proposed amendment. The following areas were reviewed for impacts: construction, operation (acute non-cancer impact, chronic non-cancer impacts, individual cancer impacts, cooling tower), cumulative impacts, environmental justice, compliance with LORS, facility closure, and conclusion.

3.6.1 Construction

Proposed modifications that have the potential to affect the health risk impact due to construction activities include:

- Increased emissions due to the drilling of two additional wells,
- Inclusion of emissions from pile driving equipment, and
- Decreased emissions from construction equipment due to the application of Tier 1 Emissions Standards.

With no new hazardous chemicals or substances proposed for use during construction, the focus of the construction impacts remains with the diesel exhaust particulate emissions. Two groups of sources contribute to these emissions, construction equipment and well drilling. On an annual basis, construction equipment was estimated to emit 1.1 tons per year (tpy) of diesel particulate emissions. The proposed modification to the project design will reduce diesel particulate emissions from construction equipment to 0.98 tpy, due to a decrease in PM_{10} emissions attributable to the application of Tier 1 Standards. For well drilling the diesel particulate emissions were initially estimated at 5.12 tpy. With the proposed modification, potential diesel particulate emissions increased to 5.73 tpy or by 11.9 percent with no credit for the application of Tier 1 Standards. The original construction equipment and well drilling construction diesel particulate emissions had an ambient air quality impact of 0.35 $\mu g/m^3$, with 0.25 $\mu g/m^3$ derived from the construction equipment and 0.10 $\mu g/m^3$ from the well drilling. Since impacts are directly proportional to the emissions, the new total impact is estimated to be 0.33 $\mu g/m^3$. The new lifetime cancer risk per individual is therefore calculated to be 2.4 in one million, a slight decrease from the earlier estimate of 2.5 in one million.

3.6.2 Operation

Proposed modifications that have the potential to affect the health risk assessment due to operational activities include:

- Increased emissions due to increasing the brine flow rate to 15.4 million pounds per hour (pph) from 12.8 million pph,
- Changes in emissions from the cooling tower due to revised cooling tower design parameters, change in the H2S partitioning ratio, and replacement of the oxidizer box system with a chemical abatement system,

- Elimination of dilution water heater emissions with the implementation of a ORC unit, and
- New emissions from the ORC unit and H_2S chemical abatement treatment.

The following four new chemicals and substances will be added to the list of substances to be present or emitted at the facility:

- Isopentane,
- Nalco Tower Brom 991 (or equivalent) containing sodium bromide & trichloroisocyanuric acid, and
- Hydrogen Peroxide.

None of these chemicals are listed in CalEPA's Office of Environmental Health Hazard Assessment Toxicity Criteria Database.

3.6.3 Acute Non-Cancer Impact

The acute non-cancer risk is driven by the emissions of H_2S during operations. New air dispersion modeling was conducted of the H_2S emissions because several of the dispersion modeling parameters had changed. A hazard index of 0.98 was estimated, which is still below the significance level of 1.0.

3.6.4 Chronic Non-Cancer Impacts

The chronic non-cancer risk is primarily driven by the net annual non-criteria pollutant emissions from the facility, which, in turn are dependent upon the brine flow rate. The brine flow rate has increased from 12.8 million pph to a maximum of 15.4 million pph, which is equivalent to a 20.3 percent increase. On a conservative basis, the chronic hazard index can be expected to increase by the same amount. For the 12.8 million pph case the hazard index was 0.156. Thus for the 15.4 million pph brine flow, the hazard index is calculated to be 0.188. The chronic hazard index is still below the significance level of 1.0.

3.6.5 Individual Cancer Impacts

Similar to the evaluation of the chronic non-cancer impacts, the individual cancer impacts are expected to increase on a conservative basis by 20.3 percent due to the increase in annual brine flow rate. For the 12.8 million pph case, the cancer risk was estimated to be 2.88 per million. For the 15.4 million pph brine flow, the cancer risk is calculated to be 3.46 per million. The resultant cancer risk is still below the significance level of 10 per million.

3.6.6 Cooling Tower

The proposed chemicals Tower Brom 991 and Hydrogen Peroxide (for control of H_2S in the condensate) are common biocide cooling tower chemicals. Since the treated condensate will contain trace amounts of these chemicals going to the cooling tower, it is expected to aid in controlling any growth of bacteria, algae and protozoa in the cooling tower. This treatment is consistent with the Public Health Condition of Certification.

3.6.7 Cumulative Impacts

The cumulative impacts of the project are not anticipated to significantly change from the original assessment as a result of the amendments to the project.

3.6.8 Compliance with LORS

The proposed Salton Sea Unit 6 Project will be in compliance with all applicable LORS regarding long-term and short-term project impacts.

3.7 Worker Safety and Health

The proposed design changes include the use and storage of up to 10,000 gallons of isopentane. Isopentane is a Class 3 flammable liquid with an unpleasant odor that will be used in the ORC unit. The area surrounding the ORC unit will be fenced separate (as the process is a Class 1, Group D, Division 2) from the rest of the SSU6 facility and will include warning signage identifying the use and storage of flammable materials. The quantity of isopentane anticipated to be on site will require compliance with Occupational Safety and Health Administration's Title 29, CFR, Part 1910.119 Process Safety Management regulations and EPA's Title 40, CFR, Part 68 Risk Management Program governing the storage, use, and employee training requirements. These programs are designed to ensure that adequate engineering design considerations are used and that operator training programs are designed and implemented. CEOE's compliance with these regulations, as well as all other applicable LORS will ensure adequate work safety and health measures are implemented.

The remaining project design changes proposed in this amendment will not result in construction or operational impacts to worker safety and health beyond those analyzed by the Commission during licensing.

With the implementation of the Worker Safety and Health COCs and the preparation of the applicable RMP and PSM plans, the project will comply with all applicable worker safety and health LORS.

3.8 Socioeconomics

The Commission Decision found that the project would not cause a significant adverse direct or cumulative impact on housing, employment, schools, public services or utilities and the project will have a positive socioeconomic impact on the area. The proposed project changes would increase CEOE's investment in the SSU6 Project; this increase is expected to result in additional positive socioeconomic impacts and would not materially alter the construction or operational workforce estimates, nor would they materially alter the local area financial benefit estimates used by the Commission during licensing.

The project as proposed complies with all applicable LORS.

3.9 Agriculture and Soils

The proposed design changes will require the disturbance of approximately 20 acres of additional land. The potential soil impacts associated with this proposed change can be

mitigated by implementing the best management practices during construction and operation to minimize soil erosion.

The additional land required by the proposed project design changes would result in the loss of 20 acres of land classified as Prime Farmland and Farmlands of Statewide Importance. This impact, without mitigation, could result in a significant impact. Therefore, CEOE proposes to provide a mitigation fee payment (payment to be determined) to an Imperial County agricultural land trust, or a statewide agricultural land trust for a total of 116 acres (96 acres required by COC LAND-6 plus an additional 20 acres for the proposed increase in the project site size).

CEOE believes that the implementation of the Air Quality, Land Use, and Soil and Water Resource COC will reduce any potential agricultural and soil impacts due to the increased construction activities to less than significant levels.

With the implementation of COC LAND-6 as proposed, the project will comply with all applicable land use LORS.

3.10 Traffic and Transportation

The increase in construction traffic over the entire 26-month construction period is expected to increase by a total of approximately 11 percent. This slight increase in overall construction traffic impact will not materially altar the construction vehicle traffic or construction worker trip estimates used by the Commission during licensing. Any potential impacts will be mitigated with the implementation of the COCs such that the traffic and transportation impacts will be less than significant levels.

The operational traffic and transportation impacts of the project design changes, most notably the increase in brine production and processing, will result in one additional truck trip per day to haul filter cake from the facility for disposal which increased in generation from 120 tons per day to 140 tons per day. The delivery of additional chemicals to support the chemical H_2S abatement system will require a total of eight additional deliveries per month (three deliveries per month for the Tower Brom and five deliveries per month for the hydrogen peroxide) and one delivery per year for the isopentane. Assuming that three additional truck deliveries per week are needed to support the increased brine production and processing, the resulting operational traffic impacts of the project would be a minimum of 36 daily truck trips and a maximum of 58 truck trips per day. This increase in operational traffic and transportation impact is not expected to result in significantly impacts to the local area.

The project as proposed, with the implementation of the traffic and transportation COC, will comply with all applicable traffic and transportation LORS.

3.11 Visual Resources

The proposed project changes will not result in any construction related visual resource impacts over those analyzed in the Commission Decision.

The operational impacts will be consistent with those analyzed during the licensing of the project. However, the elimination of the dilution water heaters vent stacks will eliminate the visible plumes that Commission Staff considered adverse but not significant[1], resulting in an overall benefit to visual resources. The elimination of one primary and one secondary clarifier is expected to result in no change to the visual impacts of the project but could potentially reduce the building density in the northwest corner of the project site, resulting result in a small improvement of the view from Rock Hill. However, this potential improvement would not significantly alter the overall view from Rock Hill.

The project as proposed will comply with all applicable LORS.

3.12 Hazardous Materials Management

The proposed design changes will require the use of new hazardous materials, including isopentane in the ORC unit and Tower Brom and hydrogen peroxide in the chemical H_2S abatement system. Table 3.12-1 presents the hazardous materials that will be required due to the proposed process design changes.

The isopentane is a flammable, volatile liquid that is used as a working fluid in the ORC unit. A 8,500 gallon isopentane working tank will be located in the ORC unit process area, which will be a Class I, Division II facility that will be fenced separately from the Salton Sea 6 area. There will be another empty 10,000-gallon tank to support removal of the isopentane from the system to allow for maintenance of the ORC unit. The ORC unit system will contain 10,000 gallons (52,000 pounds) of isopentane. The project is expected to use approximately 1,600 gallons of isopentane per year, which would be delivered once annually in a single tanker truck.

The hydrogen peroxide is 35 percent solution that is used in the chemical H_2S abatement system to oxidize the H_2S into sulfates. The hydrogen peroxide is stored adjacent to the chemical abatement system (see Figure 1 for the location of the tank) in a contained 5,000-gallon fiberglass tank. The abatement system is expected to use 500 gallons of hydrogen peroxide per day and will require five deliveries of 3,000 gallons every month.

The Tower Brom is a solid material, in tablet form that is also used in the chemical H_2S abatement system to oxidize the H_2S into sulfates. The Tower Brom in use is stored adjacent to the chemical abatement system (see Figure 1 for the location of the tank) in a 3,000 pound hopper above a 2,000 gallon mixing tank (approximately 8 feet in diameter and 6.5 feet tall with a 20 percent freeboard). The hopper will hold approximately 1, 3,000 pound supersack of Tower Brome. Two additional supersacks of Tower Brom will be stored in an enclosed storage shed adjacent to the hopper. The abatement system is expected to use 380 pounds of Tower Brom per day and will require three deliveries of approximately 4,000 pounds every month.

[1] Final Staff Assessment, page 4.12-26.

TABLE 3.12-1
Toxicity, Reactivity, and Flammability of New Hazardous and Regulated Substances Stored Onsite

Hazardous Materials	Physical Description	Health Hazard	Reactive & Incompatibles	Flammability
Isopentane	Volatile flammable liquid	Flammable: Unconsciousness from inhalation, irritation to skin, mouth and throat	Oxygen and oxidizing agents	Flammable, volatile liquid
Tower Brom Trichloro-S-Triazinetrione Sodium Bromide	Solid	Oxidizer: Eye irritant, respiratory irritant	Organic materials and reducing agents	Slight
Hydrogen Peroxide	Oxidizing liquid	Caustic: Irritation and burning on contact with skin, harmful if swallowed or inhaled	Strong oxidizing agent	Non-flammable

Table 3.12-2 shows the applicable regulatory thresholds for the hazardous materials expected to be used by the project.

TABLE 3.12-2
Regulatory Thresholds for the New Hazardous and Regulated Substances Stored Onsite

Hazardous Materials	EPA RMP TQ Pounds	CalARP Pounds	EPCRA TPQ Pounds	OSHA PSM Pounds
Isopentane	10,000	10,000	NA	10,000
Trichloro-S-Triazinetrione Sodium Bromide	NA	NA	NA	NA
Hydrogen Peroxide	Not regulated at concentrations less than 52 percent.	Not regulated at concentrations less than 52 percent.	Not regulated at concentrations less than 52 percent.	Not regulated at concentrations less than 52 percent.

As shown above, the isopentane is regulated under the federal Risk Management Program - Title 40, CFR, Part 68 and Process Safety Management Program (PSM) – Title 29, CFR, Part 1910.119 (a)(1)(ii), and the California Accidental Release Program (CalARP) – Health and Safety Code Section 25531-25543. These programs require the preparation of risk management, CalARP, and process safety plans. CEOE will prepare the necessary plans prior to construction of the applicable storage structures.

The potential offsite consequence of an accidental release of isopentane was determined using RMP*Comp (Version 1.07) assuming 52,000 pounds were released at a stored temperature of 85 ˚F into an unconfined area. The worst case offsite impact to the

overpressure endpoint of 1 pounds per square inch is 1,584 feet which does not impact any residences.

Potential releases of the hydrogen peroxide would be contained in the secondary containment area. As the chemical is not volatile, an offsite impact is not expected. No offsite impact is expected with either the solid Tower Brom or its aqueous solution.

As the delivery of these materials is to a rural area and potential public impacts of a release during transportation would be no more significant than an onsite release. Therefore, no impacts associated with transportation of these materials is expected.

With the preparation and submittal of the RMP and PSM plans and the implementation of the other hazardous material COCs, the project is expected to comply with all applicable hazardous materials handling LORS.

3.13 Waste Management

The overall construction waste management impacts are not expected to increase over those impacts analyzed in the Commission Decision, and will likely decrease slightly due to the elimination of some plant equipment (i.e., one primary and one secondary clarifier, and the vacuum filter belt).

However, construction of an additional production and injection well will result in an increase of between 36,000 to 82,000 cubic feet of non-hazardous waste generation. This will increase the overall waste generation from well drilling activities by 12 percent. These wastes are expected to be disposed of in a Class II monofill that has sufficient capacity through 2012, and has significant potential for expansion. If additional capacity is not available at the Class II monofill, then sufficient capacity exists at Class I landfills.[2]

Project operations, as licensed, were expected to generate 120 tons of filter cake with a nominal brine production rate of 12,800,000 pounds of brine production per hour. The increase in brine production to 15,100,000 pounds of brine production per hour is anticipated to increase the generation of filter cake from 120 tons per day to 142 tons per day. As indicated in the Commission Decision, the filter cake wastes are expected to be disposed of in a Class II monofill that has sufficient capacity through 2012 which has significant potential for expansion. Furthermore, if additional capacity is not available at the Class II monofill, then sufficient capacity exists at Class I landfills.[3]

There will also be an increase in brine pond solids generation as a result of the increase brine production rates of 3,000 tons per year (from 16,700 tons per year to 19,700 tons per year). This waste stream will be disposed of at one of several Class I landfills, which as indicated above have sufficient capacity to receive this waste.

There will also be a slight decrease in H_2S abatement system wastes, which are expected to be reduced from 2.5 tons per day to 2.3 tons per day as a result of the combination of: 1) increased brine flow from 12.8 to 15.1 million pph; and 2) reduced portioning of H_2S in the NCG stream from 81 to 60 percent. This waste stream is expected to also be disposed of

[2] Commission Decision, page 150.
[3] Commission Decision, page 150.

at the Class II Monofill or a Class I landfill, which as stated above have sufficient capacity available to receive this waste.

As proposed, the project is expected to comply with all applicable LORS.

3.14 Water Resources

The proposed project design changes will not impact water resources during construction over those already analyzed in the Commission Decision.

The operational impacts to water resources will also not be significant, despite the increased plant output. The Commission Decision assumed that under worst case conditions, the project could use up to 987 acre-feet of water per year, with the expected usage of 293 acre-feet per year.[4] The increase in brine production could potentially increase the expected usage to 346 acre-feet per year. CEOE has a water supply contract with Imperial Irrigation District (IID) for 1,000 acre-feet per year, which provides a significant margin for the expected water needs. Furthermore, the Commission Decision estimates the baseline water savings by the project taking 173 acres of farmland out of production would result in a water savings by IID of 865 acre-feet per year. Assuming the proposed changes result in an expected water consumption of 346 acre-feet per year, the annual net water savings by IID would be 519 acre-feet per year. Therefore, the proposed change in the SSU6 operations is not expected to result in a significant impact to water resources. This is further reinforced by Condition of Certification Soil & Water-12 that requires CEOE to petition the CEC if the project's expected water usage is above 1,000 acre-feet per year.

No impacts to surface or ground water resources above those analyzed in the Commission Decision are expected.

The project as proposed is expected to comply with all applicable water resources LORS.

3.15 Geologic Hazards and Resources

The increase in the project site size will require an additional 20-acres of land that was historically in agricultural production. Given the historic utilization of the land, impacts to mineral resources are not expected and no impacts associated with liquefaction, expansive soils or slope failure are expected, beyond those analyzed during the licensing proceeding, as a result of the proposed design changes.

The operation of the SSU6 Project with the proposed design changes incorporates will result in increased brine production and injection. The brine production can result in ground subsidence and the increased brine production proposed in the design changes has the potential to increase this impact. In order to mitigate this potential impact to below significance levels, the Commission Decision included Condition of Certification GEO-1 that requires CEOE to comply with Imperial County seismic and subsidence monitoring standards contained in the County's General Plan and Geothermal and Transmission Element (GTE). This COC requires the continuous monitoring of seismic and subsidence activities in the project area and Objective 4.5 of Imperial County's GTE require corrective

[4] Commission Decision, page 159.

measures if evidence indicates that geothermal operation has caused or will cause surface detriment. Therefore, with the implementation of Condition GEO-1, any potential seismic or subsidence impacts will be mitigated to less than significant levels.

The project as proposed is expected to comply with all applicable geologic hazard and resources LORS.

3.16 Paleontological Resources

The proposed design changes will result in the disturbance of an additional 20-acres of land that was included in the areas surveyed for paleontological resources. CEOE believes that all potential adverse impacts to geologic and paleontological resources will be mitigated to insignificance by the implementation of paleontological resources Conditions of Certification PAL-1 through PAL-7.

The operation of the SSU6 Project with the proposed design changes implemented will not result in any paleontological resource impacts above those previously considered by the Commission.

The project as proposed is expected to comply with all applicable paleontological resources LORS.

3.17 Cumulative Impacts

This Amendment will not change the assumptions or conclusions made in the Commission Decisions the proposed design changes will not result in cumulative impacts not already analyzed by the Commission.

3.18 Laws, Ordinances, Regulations, Standards

The Commission Decision certifying the SSU6 Project concluded that the project complied with all applicable LORS. As shown above, the potential impacts from this Amendment will be equal to or less than the impacts analyzed in the Commission Decision.

4.0 Proposed Modifications to the Conditions of Certification

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(A), this section addresses the proposed modifications to the project's Conditions of Certification.

The proposed modification to the applicable of Conditions of Certification are presented in Appendix 3.

5.0 Potential Effects on the Public

Consistent with the requirements of the CEC Siting Regulations Section 1769 (a)(1)(G), this section addresses the proposed Amendment's effects on the public.

The proposed project design changes are not expected to result in any significant impacts to the public.

6.0 List of Property Owners

Consistent with the CEC Siting Regulations Section 1769(a)(1)(H), this section lists the property owners affected by the proposed modifications:

Imperial Magma
C/O Midamerican Energy Corp Tax Department
P.O. Box 657
Des Moines, IA 50303

Imperial Irrigation District
P.O. Box 937
Imperial, CA 92251

7.0 Potential Effects on Property Owners

Consistent with the CEC Siting Regulations Section 1769(a)(1)(I), this section addresses potential effects of the proposed Amendment on nearby property owners, the public, and parties in the application proceeding.

Due to the temporary nature of construction-related activities, the proposed project changes will not create any significant impacts and do not substantively change the assumptions or conditions of approval for the project license.

The operational impacts of the proposed design changes will not result in significant unmitigated environmental impacts and the proposed changes will provide approximately 25 megawatts of additional electrical capacity to the southern California electrical system.

Appendix 1

Amended Interconnection Agreement between CEOE and Imperial Irrigation District

AMENDMENT NO. 1 TO INTERCONNECTION AND OPERATING AGREEMENT

This Amendment No. 1 to the Interconnection and Operating Agreement (this "Amendment") is made and entered into as of this 21st day of Sept, 2004, between Imperial Irrigation District, an irrigation district organized and existing under the laws of the State of California ("IID") and CE Obsidian Energy LLC, a Delaware limited liability company ("CEOE" and together with IID, the "Parties" and each a "Party").

WITNESSETH

WHEREAS, IID and CEOE are parties to the Interconnection and Operating Agreement, dated January 13, 2004 (the "Agreement"), pursuant to which, among other things, CEOE will interconnect the Facility with IID's Transmission System; and

WHEREAS, the Parties desire to amend the Agreement in accordance with terms and conditions specified in this Amendment; and

NOW, THEREFORE, in consideration of above premises and the mutual covenants and agreements hereinafter set forth, the Parties hereto mutually contract and agree as follows:

AGREEMENT

1. Definitions. Capitalized terms used, and not otherwise defined herein, shall have the meanings assigned to them in the Agreement.

2. Amendments to the Agreement. The Agreement is amended as follows:

(a) Section 1.9 of the Agreement is amended by deleting the text of such section in its entirety and replacing it with the following:

> "CEOE's geothermal electric generating facility known as the "Salton Sea Unit 6" as further identified in Appendix B herein with a net output rating of about 195 MW during summer months and 205 MW during winter months".

(b) Section 4.7 of the Agreement is amended by deleting such section in its entirety.

(c) Appendix A of the Agreement is amended by deleting the dates "October 1, 2004" and "June 1, 2004" in each of paragraphs (5) and (6) of Section 5.1 thereof and replacing them with the dates "October 1, 2005" and "June 1, 2005", respectively.

(d) Appendix A of the Agreement is amended by deleting the dates "June 1, 2004" and "August 1, 2004" in each of paragraphs (5) and (6) of Section 5.2 thereof and replacing them with the dates "June 1, 2005" and "August 1, 2005", respectively.

(e) Appendix A of the Agreement is amended by deleting the text of Section 5.2(9) in its entirety and replacing it with the following:

> "It is understood that IID shall target a date of October 1, 2006 to complete and energize either the SB line or the SN line connecting the Interconnection Facilities. This date is 16 months from the date CEOE is expected to receive financing. If CEOE receives financing later than June 1, 2005, IID will target completion of either the SB line or the SN line within 16 months from the date CEOE receives financing".

(f) Appendix A of the Agreement is amended by deleting the text of Section 5.2(10) in its entirety and replacing it with the following:

> "Within 30 months of the date CEOE receives financing, IID shall complete the SN line or the SB line (whichever has not been completed by the 16-month target date referenced in Section 5.2(9) above) connecting the Interconnection Facilities and will notify CEOE of the planned interconnection date 30 days prior to completing each line".

(g) Appendix B of the Agreement is amended by deleting the figure "185 (one hundred and eighty-five) MW" in Section 4.0 thereof and replacing it with "195 (one hundred and ninety five) MW during summer months and 205 (two hundred and five) MW during winter months".

3. Effect. Except as expressly amended by this Amendment, the terms and conditions of the Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, each of CEOE and IID hereby acknowledges and consents to the terms of this Amendment and has executed this Amendment as of the date and year first written above.

CE OBSIDIAN ENERGY LLC

By: _____
Name: Stefan A Bird
Title: President

IMPERIAL IRRIGATION DISTRICT

By: _____
Name: Bruce Kuhn
Title: President

INTERCONNECTION AND OPERATING AGREEMENT

by and between

CE Obsidian Energy LLC

and

IMPERIAL IRRIGATION DISTRICT

IID CONTRACT NO. _____

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INTERCONNECTION AND OPERATING AGREEMENT

THIS AGREEMENT (the "Agreement") is made and entered into this ____day of_____ 2004, by and between CE Obsidian Energy LLC ("CEOE") a limited liability company and organized and existing under the laws of the State of Delaware, and Imperial Irrigation District ("IID"), an irrigation district duly organized and existing under the laws of the State of California. CEOE and IID each may be referred to as a "Party," or collectively as the "Parties."

RECITALS:

WHEREAS, CEOE intends to own a geothermal electric generating facility, hereinafter "Facility" located near Calipatria, California as described in Appendix B hereto; and,

WHEREAS, the Facility is located adjacent to or within proximity to the transmission facilities of IID; and

WHEREAS, CEOE has requested, and IID has agreed to enter into an interconnection agreement with CEOE to interconnect the Facility with IID's Transmission System; and

WHEREAS, this Agreement does not provide for Transmission Services or distribution services and separate arrangements are required for such services;

NOW, THEREFORE, in consideration of and subject to the mutual covenants contained herein, it is agreed:

ARTICLE 1
DEFINITIONS

1. Whenever used in this Agreement, appendices, and attachments hereto, the following terms shall have the following meanings:

1.1 Affiliate.
With respect to any person (legal or natural, including any individual, corporation, partnership, limited liability company, joint stock company, association, joint venture, trust, governmental or international body or agency, or other entity), any other person (other than an individual) that directly or indirectly, through one or more intermediaries, controls, or is controlled

by, or is under common control with, such person. For purposes of the forgoing definition, "control" means the direct or indirect ownership of more than twenty five percent (25%) of the outstanding capital stock or other equity interest having ordinary voting power.

1.2 Applicable Laws.
Applicable Laws shall include all federal, state and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives or judicial or administrative orders.

1.3 Automatic Voltage Regulation or AVR.
Equipment, which controls the output of reactive power resources based on local system voltage or loads.

1.4 Confidential Information.
Any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise. Confidential Information shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this Agreement. Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential. Any oral indication of confidentiality is to be confirmed with a written statement noting that the information is confidential. This confidentiality provision is intended to create no stricter an obligation than exists under IID's OATT.

1.5 Control Area.
An electric power system or combination of electric power systems to which a common automatic generation control scheme is applied in order to:

1.5.1 match, at all times, the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);

1.5.2 maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;

1.5.3 maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and

1.5.4 provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.

1.6 Control Area Operator.
The Control Area Operator is an entity that:

1.6.1 has ultimate accountability for a defined portion of the bulk electric system to meet one or more of three reliability objectives- generation/demand balance, transmission security, and/or emergency preparedness; and

1.6.2 is accountable to NERC and its regional reliability councils for complying with NERC and regional policies; and

1.6.3 has the authority to control and direct the operation of generating resources, transmission facilities, or loads, to meet these policies.

1.7 Curtail.
Curtail, including any other form of the word such as Curtailment, Curtailing, and Curtailable, shall mean any partial or total reduction, interruption or cessation of deliveries of energy.

1.8 Emergency.
Any abnormal system condition that requires automatic or immediate manual action or intervention to prevent endangerment of life or limit loss of transmission facilities or generation supply that could adversely

affect the reliability or integrity of the Transmission System or the systems to which the Transmission System is directly or indirectly connected.

1.9 Facility.
CEOE's geothermal electric generating facility with a net output rating of about 185 MW known as the "Salton Sea Unit 6" as further identified in Appendix B herein.

1.10 FERC.
The Federal Energy Regulatory Commission, or its successor.

1.11 Force Majeure.
An event of Force Majeure means any act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, any Curtailment, order, regulation or restriction imposed by governmental military or lawfully established civilian authorities, or any other cause beyond a Party's reasonable control. A Force Majeure event does not include an act of negligence or intentional wrongdoing.

1.12 Generator Energy Imbalance.
The energy difference (MWh) between CEOE's schedule from the Facility and the actual energy delivered from CEOE's Facility into IID's Control Area for the applicable period.

1.13 Good Utility Practice.
Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry in the WECC during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result consistent with good business practices, reliability, economy, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region

1.14 Governor Droop.
Governor Droop is the decrease in frequency to which a governor responds by causing a generator to go from no load to full load.

1.15 Hazardous Substances.
Any chemicals, materials or substances defined as or included in the definition of "hazardous substances", "hazardous wastes", "hazardous materials", "hazardous constituents", "restricted hazardous materials", "extremely hazardous substances", "toxic substances", "contaminants", "pollutants", "toxic pollutants" or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law. The term "Environmental Law" shall mean federal, state, and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders relating to pollution or protection of the environment, natural resources or human health and safety.

1.16 Interconnection Facilities.
All facilities presently in place or proposed to be installed, as identified in Appendix A, or facilities which are later installed, in order to interconnect and deliver energy from CEOE's Facility to the Transmission System including, but not limited to, connection, engineering, transformation, switching, metering and safety equipment.

1.17 Interconnection Service.
Interconnection Service includes all of IID's actions to allow the physical interconnection of the Facility with the Transmission System pursuant to the terms of this Agreement. Except as specifically provided in the PSA, IID does not under this Agreement, provide or make available any Transmission Service, distribution service or ancillary services using any part of its Transmission System for CEOE or any third party, nor does IID undertake to act as a scheduling coordinator or in any other capacity for CEOE.

1.18 Joint Use Facilities.
Facilities and equipment which are identified as Joint Use Facilities in Appendix E hereto, as it may be

amended from time to time, which are owned by IID, CEOE, or both Parties, and are, or may be, operated jointly by IID and CEOE.

1.19 Maintenance Outage.
A partial derate, or the full removal from service availability, of the Facility, a component of the Transmission System or Interconnection Facilities to perform work on specific components that can be deferred beyond the end of the next weekend, but requires the equipment be removed from service before the next Planned Outage except as otherwise provided in the PSA, including but not limited to Section 8.2 thereof. Typically, maintenance outage can occur any time during the year, have a flexible start date, and may or may not have a predetermined duration.

1.20 Market Price.
For the purpose of settlement for Generator Energy Imbalance service, Market Price shall be deemed to equal: (i) for on-peak hours, the California ISO SP 15 Hourly Ex Post price for the hour, divided by the average of the California ISO SP 15 Hourly Ex Post indices for the on-peak hours for the day and then multiplied by the Dow Jones Palo Verde Daily firm on-peak index for the day, plus associated transmission costs, if any; (ii) for off-peak hours, the California ISO SP 15 Hourly Ex Post price for the hour, divided by the average of the California ISO SP 15 Hourly Ex Post indices for the off-peak hours for the day and then multiplied by the Dow Jones Palo Verde Daily firm off-peak index for the day, plus associated transmission costs, if any.

If the above indices are no longer available, the Parties will mutually agree upon a substitute indices or alternative method to compute the market price. Should the Parties be unable to mutually agree upon substitute indices or alternative method to compute the market price prior to the time when the above indices cease to be available, a thirty-day average of the last available indices for the respective on-peak and off-peak market prices will be used until mutual agreement is achieved. Once the Parties mutually agree to substitute indices or alternative method to compute the market price, those market indices will be applied retroactively to the time when the prior indices ceased to be available.

1.21 Member.
Member is any party to the WECC Agreement.

1.22 Metering Equipment.
All metering equipment currently installed at the Facility and/or other metering equipment to be installed at the metering points designated in Appendix C.

1.23 Must-Run Generation.
Local generation located within a load constrained zone or region that must be in operation to maintain the electric system security on IID's system.

1.24 NERC.
The North American Electric Reliability Council, or its successor.

1.25 Open Access Transmission Tariff ("OATT" or "Tariff")
IID's Open Access Transmission Tariff that, in addition to governing access to Transmission Services and ancillary services from IID, provides the uniform standards, policies and pricing for services that IID applies to connect new capacity to IID's system.

1.26 Operation Date.
The day upon which Interconnection Facilities and equipment of the Facility have been completed, to IID's and CEOE's mutual satisfaction, and energized in parallel operation of IID's and CEOE's systems as confirmed in a written notice substantially in the form shown in Appendix F.

1.27 Oversupply Imbalance.
An instance wherein the actual energy delivered from the Facility into the Control Area for a specific period is greater than the schedule submitted by CEOE to the Control Area Operator for deliveries of energy from the Facility into the Control Area.

1.28 Planned Outage.
A partial derate, or the full removal from service availability, of the Facility, a component of the Transmission System or Interconnection Facilities for inspection and/or general overhaul of one or more major

equipment groups. This outage is usually scheduled well in advance.

1.29 Points of Interconnection.
The Points of Interconnection are the point(s), shown in Appendix A, where CEOE's Facility physically interconnects with the Transmission System.

1.30 Point of Receipt.
Point of receipt will be the Points of Interconnection at the Facility.

1.31 Power Sales Agreement (PSA).
The contract for the sale of energy dated November 6, 2001 between CEOE and IID as may be amended from time to time. The terms of the PSA are independent contractual obligations, for the duration of the PSA only, between the Parties. When they are applicable to commercial terms regarding the sale of energy and ancillary services delineated in this Agreement the PSA terms supercede the terms in this Agreement.

1.32 Power System Stabilizer (PSS).
A control system applied at a generator that monitors generator variables such as current, voltage and shaft speed and sends the appropriate control signals to the voltage regulator to damp oscillations.

1.33 Prudent Industry Practices.
Prudent Industry Practices shall mean any of the practices, methods, standards and acts engaged in or approved by a significant portion of the power generation industry in the WECC (including, but not limited to, the practices, methods and acts engaged in or approved by a significant portion of the independent power generation industry) that, at a particular time, in the exercise of reasonable judgment in light of the facts known at the time a decision was made, could reasonably have been expected to accomplish the desired result consistent with good business practices, reliability, economy, safety and expedition, and which practices, methods, standards and acts generally conform to operation and maintenance standards recommended by a facility's equipment suppliers and manufacturers, and the design limits, governmental approvals and provisions of law applicable to a facility. Prudent Industry Practices are not intended to be the optimum practices,

methods or actions to the exclusion of all others, but rather are intended to be any of the practices, methods and/or actions generally accepted in the industry in the region.

1.34 Reliability Management System (RMS).
The contractual reliability management program implemented through the WECC Reliability Criteria Arrangement, Section 2 of this Agreement, and any similar contractual arrangement.

1.35 RTO.
RTO is a regional transmission organization of which IID may become a member or participant at some point in the future.

1.36 Secondary Systems.
Control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers.

1.37 SIC (System Incremental Cost).
Any increase in cost incurred by IID as a result of performing Generator Energy Imbalance services requiring the utilization of dispatchable generation or purchases from third-parties. SIC shall be computed as the weighted average price of the highest-cost dispatchable generation resource and/or third-party purchase made by IID's real-time operators incurred by IID up to an amount of energy equal to the system net energy imbalance. The cost of SIC for both the generation and purchased power components shall be determined by IID's real-time operator on an hourly basis at the time the real-time operator makes a decision on the source of the energy supply.

1.38 Security Coordinator.
The Security Coordinator is an entity that provides the security assessment and emergency operations coordination for a group of Control Areas. Security Coordinators must not participate in the wholesale or retail merchant functions.

1.39 Southwest Reserve Sharing Group.
A group whose members consist of Control Areas (IID included) that collectively maintain, allocate, and supply operating reserves required for each Control Area's use in recovering from contingencies within the group.

1.40 Start-Up and Acceptance Testing.
Start-Up and Acceptance Testing includes capacity and reliability tests performed per CEOE's engineering, procurement and construction contract test and commissioning procedures with respect to the Facility in accordance with Prudent Industry Practices and Section 4.1.

1.41 Switching and Tagging Rules.
IID's and CEOE's switching and tagging procedures, as they may be amended from time to time.

1.42 System Operator.
The individual or entity that is responsible for operating the Transmission System that can be contacted at all times in the IID Energy Department control center.

1.43 System Protection Facilities.
The equipment required to protect: (1) the Transmission System, other systems connected to the Transmission System, and IID's and CEOE's respective properties from faults occurring at the Facility; and (2) the Facility from faults occurring on the Transmission System or on the other system(s) to which the Transmission System is directly or indirectly connected.

1.44 System Upgrades.
Modifications or improvements to the Transmission System required in order to interconnect the Facility with the Transmission System.

1.45 Tariff.
IID's Open Access Transmission Tariff, as defined above.

1.46 Transmission System.
The facilities owned, controlled or operated by IID that are used to provide Transmission Service under Part II, Part III and Part IV of the Tariff.

1.47 Transmission Service.
Point-to-point Transmission Service provided under the Tariff on a firm or non-firm basis.

1.48 Undersupply Imbalance.
An instance wherein the actual energy delivered from the Facility into the Control Area for a specific period is less than the schedule submitted by CEOE to the Control Area Operator for delivery of energy from the Facility into the Control Area.

1.49 Unplanned Outage.
A partial derate, or the full removal from service availability, of the Facility, a component of the Transmission System or Interconnection Facilities for emergency reasons or a condition in which the equipment is unavailable due to unanticipated failure.

1.50 Western Interconnection.
The area comprising those states and provinces, or portions thereof, in Western Canada, Northern Mexico and the Western United States in which Members of the WECC operate synchronously connected transmission systems.

1.51 WECC.
The Western Electricity Coordinating Council, or its successor.

1.52 WECC Agreement.
The Western Systems Coordinating Council Agreement and Bylaws dated March 20, 1967, amended December 2, 1994, and as such may be amended from time to time, which agreement has been assumed by the WECC, as successor to the WSCC.

1.53 WECC Reliability Criteria Agreement.
The Western Systems Coordinating Council Reliability Criteria Agreement as updated from time to time among the WSCC and certain of its member transmission operators, as such may be amended from time to time, which agreement has been assumed by the WECC and its members, as successor to the WSCC.

1.54 **WECC Staff.**
Those employees of the WECC, including personnel hired by the WECC on a contract basis, designated as responsible for the administration of the RMS.

1.55 **WSCC.**
The Western System Coordinating Council, a predecessor to the WECC.

ARTICLE 2
TERM OF AGREEMENT

2.1 **Effective Date.**
This Agreement by the Parties shall become effective, upon execution by the Parties.

2.2 **Term.**

2.2.1 **General.** This Agreement shall continue in full force and effect until CEOE notifies IID that commercial operations of the Facility have either permanently ceased or will never begin.

2.2.2 **Termination Upon Default.** This Agreement maybe terminated upon a Party's Default in accordance with the provisions of Article 20.

2.2.3 **Material Adverse Change.** In the event of a material change in law, or regulation that adversely affects, or may reasonably be expected to adversely affect, either Party's performance under this Agreement, the Parties will negotiate in good faith any amendment or amendments to this Agreement necessary to adapt the terms of this Agreement to such change in law or regulation. If the Parties are unable to reach agreement on any such amendments, the Parties shall proceed in accordance with the provisions of the IID OATT, (currently Section 5 of Attachment J) relating to treatment of disputed terms of this Agreement.

2.2.4 Termination by CEOE

Except as otherwise provided in the PSA, CEOE may terminate this Agreement on not less than 90 (ninety) days prior written notice. However, if CEOE terminates the agreement after the Commercial Operation Date but before the completion date of the PSA, it shall be responsible for reimbursing IID for the original cost, less depreciation, of all the facilities that IID financed in association with the interconnection, including any Network Upgrades for which IID has incurred expenses and has not been reimbursed by CEOE.

2.3 Survival.

The applicable provisions of this Agreement shall continue in effect after expiration, cancellation, or termination hereof to the extent necessary to provide for final billings, billing adjustments, and the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect.

ARTICLE 3
INTERCONNECTION SERVICE

3.1 Service.

Under this Agreement, IID shall provide CEOE with Interconnection Service for the Facility for the term of this Agreement.

3.2 Scope of Service.

IID shall provide Interconnection Service to CEOE for the Facility at the Point(s) of Interconnection. In the event of an increase in the output of the Facility or other material change or modification to the configuration and/or operation of the Facility, the Parties shall negotiate appropriate revisions to this Agreement, including as necessary the specifications or requirements set forth in the Appendices to this Agreement, as necessary to permit IID to provide Interconnection Service to the Facility under this Agreement in a safe, secure and reliable manner.

3.2.1 Except as otherwise provided under Sections 5.9.1, and 5.11 of this Agreement, IID shall have no obligation under this Agreement to pay CEOE any wheeling or other charges for electric power and/or energy transferred through the Interconnection Facilities or for power or ancillary services delivered into the Transmission System.

3.2.2 Except as otherwise specifically provided in the PSA or under this Agreement, IID shall have no obligation under this Agreement to make arrangements, or pay under applicable tariffs, for Transmission Services, ancillary services or Must-Run Generation or losses associated with the delivery of electricity and electrical products produced by the Facility.

3.2.3 Except as otherwise specifically provided in the PSA, IID shall have no obligation under this Agreement to procure or provide electricity and/or ancillary electrical services to satisfy the Facility's requirements or any other requirements that CEOE may have pursuant to the construction, operation or maintenance of its Facility.

3.2.4 Except as otherwise specifically provided in the PSA or under this Agreement, IID shall have no obligation under this Agreement to make arrangements under any applicable tariffs, for Transmission Services, ancillary services and Must-Run Generation or for losses associated with the use of the Transmission System for the delivery of electricity and ancillary electrical services to the Facility.

3.2.5 Except as otherwise specifically provided in the PSA, including but not limited to Section 3.7 thereof, IID makes no representations to CEOE regarding the availability of Transmission Service on the Transmission System, and CEOE agrees that the availability of Transmission Service on the Transmission System may not be inferred or implied from IID's execution of this Agreement. To obtain Transmission Service on the IID Transmission System, CEOE must request such

service in accordance with the provisions of the Tariff.

3.3 Reporting.
Each Party shall notify the other Party when it becomes aware of its inability to comply with the operational provisions of this Agreement. The Parties agree to cooperate with each other and provide necessary information regarding such operational inability to comply, including, but not limited to, the date, duration, and reason for the operational inability to comply, and operational corrective actions taken or planned to be taken with respect to such operational inability to comply.

3.4 Third Party Actions.
CEOE acknowledges and agrees that from time to time during the terms of this Agreement other entities may develop, construct and operate, or acquire and operate generating facilities in IID's service territory, and construction or acquisition and operation of any such facilities, and reservations by any such other entities of Transmission Service under the Tariff may adversely affect the Facility and the availability of Transmission Service for the Facility's electric output. CEOE acknowledges and agrees that IID has no obligation under this Agreement to disclose to CEOE any information with respect to third party developments or circumstances, including the identity or existence of any such person or other facilities, except as may be otherwise required under this Agreement. CEOE and IID make no promises, warranties or guarantees to the other under this Agreement with respect to Transmission Service that is available under the Tariff or any other tariff under which Transmission Service may be available in the region.

3.5 Ancillary Services.
Except as otherwise specifically provided in the PSA and under Section 5.8.1 of this Agreement with regard to CEOE's obligation to provide reactive power for system reliability purposes, CEOE specifically reserves unto itself, its successors and assigns, the right and option, but not the obligation, to provide ancillary services into the market, whether or not such ancillary services are addressed in this Agreement.

3.6 Retention in Queue and Continued Performance.

Appendix A identifies CEOE milestones that must be met to retain CEOE's position in the interconnection queue following the execution of this Agreement. Failure to meet an identified milestone shall allow IID, at its option, to interrupt or cease performance under this Agreement pending determination of the new date the milestone will be met and to adjust CEOE's queue priority for Interconnection Service accordingly. If CEOE is in jeopardy of losing its queue position, IID shall send written notice that IID intends to interrupt or cease its performance requirements pursuant to the Agreement and specifying the reasons for such actions. CEOE shall have an opportunity to respond to IID within 15 days from the date of receipt of such written notice demonstrating proof that it has fulfilled all required milestones.

ARTICLE 4
ACCEPTANCE AND PERFORMANCE TESTING AND COMPLIANCE MONITORING

4.1 Responsibility of CEOE for Testing.

CEOE will perform all start-up and acceptance testing required by NERC, WECC, SRSG, and the RTO (if and as applicable) and such additional testing as IID may reasonably require. All testing will be successfully completed before commercial operation of the Facility. Subsequent testing will be performed compliant with the frequency requirements of NERC, WECC, SRSG, and the RTO (if and as applicable) and any other reliability requirements of any other pertinent organization/entity. All such tests will be performed to the specifications of NERC, WECC, and the RTO (if applicable) or any other specifications required by new or other reliability organizations whose specifications IID is obligated to follow. CEOE shall inform IID in advance (whenever possible, a minimum of five (5) business days) when such tests are scheduled to occur, and IID shall have the right but no obligation to have representatives observe and monitor such tests. The exercise or non-exercise of these rights shall not be construed as an endorsement or confirmation of any element or condition of the Interconnection Facilities or the System Protection Equipment or other protective and control equipment or

the operation thereof, or as a warranty as to the fitness, safety, desirability, or reliability of same.

CEOE will provide IID with weekly (or more frequently as reasonably requested by IID) updates (oral, facsimile, email or U.S. Postal Service) of the start-up and testing status including such information as the schedule for expected operation, the expected level of operation and the type of test(s) being performed.

4.2 Documentation of Results to IID.
CEOE will provide IID with documentation of all turbine generator start-up and performance testing including test results.

4.3 Facility Certification.
CEOE will comply with any facility certification requirements of NERC, WECC, and the RTO (if and as applicable).

4.4 Compliance Monitoring.
CEOE will provide IID with all performance measurements for operation and testing of the Facility required by NERC, WECC, and the RTO (if and as applicable) for compliance monitoring programs such as, but not limited to, the RMS.

4.5 Responsibility for Sanctions.
CEOE will be responsible for reimbursement to IID of any economic sanctions or portions thereof imposed as a result of compliance monitoring programs for operation and testing of the Facility when such sanctions are attributable solely to actions or inactions of CEOE, its Affiliates or contractors, and for a proportionate share if such sanctions are attributable in part to actions by any of the above up to the proportionate share of responsibility.

4.6 Transmission Service during Testing.
Except as otherwise specifically provided in the PSA, CEOE has sole responsibility to make necessary arrangements through the OATT to procure any Transmission Service over the Transmission System that may be required to accommodate the testing procedures of CEOE's Facility prior to the commencement of any testing that might deliver electric power into the Transmission System.

4.7 Acceptance of Test Energy.

IID reserves the right to reject test energy at any time if it is determined by IID that the test energy imposes unreasonable impacts on reliability and/or unreasonable costs, e.g. if the amount of test energy is greater than IID's single largest contingency. The Parties agree that the PSA language concerning IID's requirement to accept test energy is being further clarified by this Agreement as to amount and timing of IID's acceptance of test energy. The Parties agree that IID's obligation to purchase test energy is limited to 200,000 MWh. IID will purchase up to 200,000 MWh of test energy over a 60-day period at the price specified in the PSA. CEOE will notify IID 15 days in advance when test energy will be sent. CEOE may divide up the 60 days into 2 periods of time but cannot deliver test energy for more than 60 days total. If CEOE stops the clock for any reason, CEOE will give IID at least 15 calendar days notice again before restarting the remainder of the time to sell test energy to IID. The Parties agree that 200,000 MWh over 60 days will not cause unreasonable impacts on IID's reliability.

ARTICLE 5
OPERATIONS

5.1 General:

5.1.1 In carrying out the requirements of this Agreement, neither Party shall be required to take actions that would violate any provision of the reliability criteria, standards, guidelines and operating procedures of NERC, WECC, and the RTO (if and as applicable); a Party's FERC licenses (if any) or tariffs; or Applicable Laws.

5.1.2 IID Obligations: IID shall operate and control the Transmission System and other IID facilities (1) in a safe and reliable manner; (2) in accordance with Good Utility Practice; (3) in accordance with applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, WECC, and the RTO (if and as applicable); and (4) in accordance with the provisions of this Agreement.

5.1.3 CEOE Obligations: CEOE shall operate and control the Facility (1) in a safe and reliable manner; (2) in accordance with Prudent Industry Practices; (3) in accordance with applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, WECC, and the RTO (if applicable); (4) within a WECC Control Area and (5) in accordance with the provisions of this Agreement.

5.1.4 CEOE Communications: CEOE shall maintain operating communications with the System Operator. Operating communications shall include, but not be limited to, advising the System Operator promptly, and in advance, of any paralleling with or separation from the Transmission System and any unscheduled shutdown, equipment clearance, and changes in levels of operating voltage or power factors.

5.2 Reliability Criteria:

5.2.1 Power System Stabilizers (PSS): CEOE shall install and operate PSS on generators in accordance with the WECC Policy Statement on PSS, the RMS criteria and any other requirement that IID may be obligated to follow upon IID's written notice of such requirements.

5.2.2 Automatic Voltage Regulation (AVR): CEOE shall install and operate AVR in accordance with all requirements of NERC, RMS criteria, and the RTO (if and as applicable) or the RMS criteria and any other requirement that IID may be obligated to follow upon written notice of such requirements. Each interconnected unit shall have AVR and such AVR shall be tuned in accordance with IEEE standard 421 or its successor. Voltage regulator controls and limit functions (such as over and under excitation and volts/hertz limiters) shall coordinate with the Facility's generators short duration capabilities and protective relays. AVRs must be continuously acting solid state analog or digital. Tuning shall be in accord with the NERC Planning Standards. Tuning results shall be included in commissioning test reports provided to IID.

5.2.3 Governors: CEOE will operate all governors in accordance with requirements of NERC, WECC, and the RTO (if and as applicable) including any requirements for Governor Droop settings. To provide equitable and coordinated system response to load/generation imbalances, governors shall not be blocked or operated with excessive dead-bands.

5.2.4 Other Requirements: CEOE will comply with all other requirements of NERC, WECC, and the RTO (if and as applicable), including, but not limited to WECC's required language for any new generator interconnection agreement arising from its Reliability Management System, which system IID is obligated to implement, as set forth in Section 5.5

5.3 Facility Energy Output Scheduling. Except as may be otherwise negotiated in a future Transmission Service Agreement between the Parties, CEOE, or its qualified agent, shall perform scheduling with respect to any requested transmission of capacity and energy from CEOE's Facility in accordance with the Tariff and Applicable Laws. IID does not undertake to act as a scheduling coordinator or in any other capacity for CEOE. CEOE shall make available information about the Facility output to the entity scheduling in order to allow timely and accurate tagging of transactions from the Facility, and will meet all NERC, WECC, IID and RTO (if applicable) requirements for e-tagging Facility output.

5.4 Generator Balancing Service Arrangements. Except as specifically provided in the PSA, CEOE must demonstrate, to IID's reasonable satisfaction, that it has satisfied the requirements of this Section 5.4 prior to the submission of any schedules for delivery service to IID identifying the Points of Interconnection of the Facility as the Point of Receipt for such scheduled delivery.

Interconnection Customer is responsible for ensuring that its actual Facility output matches the scheduled delivery from the Facility to IID's Transmission System, consistent with the scheduling requirements of IID's Board-approved market structure, including ramping into and out of such scheduled delivery, as measured at the

Point of Interconnection, consistent with the scheduling requirements of the IID's Tariff and any applicable approved market structure.

CEOE shall arrange for the supply of energy when there is a difference between the actual Facility output and the scheduled delivery from the Facility (the "Generator Balancing Service Arrangements").

CEOE may satisfy its obligation for making such Generator Balancing Service Arrangements by:

(a) obtaining such service from another entity that (i) has generating resources deliverable within the applicable Control Area, (ii) agrees to assume responsibility for providing such Generator Balancing Service Arrangements to CEOE , and (iii) has appropriate coordination service arrangements or agreements with the applicable Control Area that addresses Generator Balancing Service Arrangements for all generating resources for which the entity is responsible within the applicable Control Area;

(b) committing sufficient additional unscheduled generating resources to the control of and dispatch by the applicable Control Area operator that are capable of supplying energy not supplied by CEOE's scheduled Facility, and entering into an appropriate coordination services agreement with the applicable Control Area that addresses Generator Balancing Service Arrangements obligations for the Facility;

(c) entering into an arrangement with another Control Area to dynamically schedule CEOE's Facility out of the applicable Control Area and into such other Control Area;

(d) entering into a Generator Balancing Service Arrangements with authorized entities within an adjacent Control Area; or

(e) in the event the load/generation balancing function of IID is accomplished through the function of its market structures, by entering into an arrangement consistent with a FERC-approved market structure. In the event there is no FERC approved market structure, a structure that treats CEOE in the same manner as it treats other generation including IID's generation will be utilized.

In the event CEOE fails to demonstrate to the IID that it has otherwise complied with this Section 5.4, CEOE shall be deemed to have elected to enter into a pro forma Generator Balancing Service Arrangement with IID.

Nothing in this provision shall prejudice either Party from obtaining a FERC-approved tariff addressing its obligations and rights with respect to Generator Balancing Service Arrangements.

5.5 Reliability Management System.

5.5.1 Purpose

In order to maintain the reliable operation of the transmission grid, the WECC Reliability Criteria Agreement sets forth reliability criteria adopted by the WECC to which CEOE and IID shall be required to comply.

5.5.2 Compliance

CEOE shall comply with the requirements of the WECC Reliability Criteria Agreement, including the applicable WECC reliability criteria set forth in Section IV of Annex A thereof, and, in the event of failure to comply, agrees to be subject to the sanctions applicable to such failure. Such sanctions shall be assessed pursuant to the procedures contained in the WECC Reliability Criteria Agreement. Each and all of the provisions of the WECC Reliability Criteria Agreement are hereby incorporated by reference into this Section 5.5 as though set forth fully herein, and CEOE shall for all purposes be considered a participant, and shall be entitled to all of the rights and privileges and be subject to all of the obligations of a

participant, under and in connection with the WECC Reliability Criteria Agreement, including but not limited to the rights, privileges and obligations set forth in Sections 5, 6 and 10 of the WECC Reliability Criteria Agreement.

5.5.3 Payment of Sanctions

CEOE shall be responsible for payment of any monetary sanction assessed against CEOE by WECC pursuant to the WECC Reliability Criteria Agreement. Any such payment shall be made pursuant to the procedures specified in the WECC Reliability Criteria Agreement.

5.5.4 Transfer of Control or Sale of Generation Facilities

In any sale or transfer of control of the Facility, CEOE shall as a condition of such sale or transfer require the acquiring party or transferee with respect to the transferred facilities either to assume the obligations of CEOE with respect to this Agreement or to enter into an agreement with IID imposing on the acquiring party or transferee the same obligations applicable to CEOE pursuant to this Section 5.5.

5.5.5 Publication

CEOE consents to the release by the WECC of information related to CEOE's compliance with this Agreement only in accordance with the WECC Reliability Criteria Agreement and the provisions of Article 23 of this Agreement.

5.5.6 Third Parties

Except for the rights and obligations between the WECC and CEOE specified in this Section 2, this Agreement creates contractual rights and obligations solely between the Parties. Nothing in this Agreement shall create, as between the Parties or with respect to the WECC: (1) any obligation or liability whatsoever (other than as expressly provided in this Agreement), or (2) any duty or standard of care whatsoever. In addition, nothing in this Agreement shall create any duty, liability, or standard of care whatsoever as to any other party. Except for the rights, as a

third-party beneficiary under this Section 2, of the WECC against CEOE, no third party shall have any rights whatsoever with respect to enforcement of any provision of this Agreement. IID and CEOE expressly intend that the WECC is a third-party beneficiary to this Section 5.5, and the WECC shall have the right to seek to enforce against CEOE any provision of this Section 5.5, provided that specific performance shall be the sole remedy available to the WECC pursuant to Section 5.5 of this Agreement, and CEOE shall not be liable to the WECC pursuant to this Agreement for damages of any kind whatsoever (other than the payment of sanctions to the WECC, if so construed), whether direct, compensatory, special, indirect, consequential, or punitive.

5.5.7 Reserved Rights

Nothing in this section 5.5 or the WECC Reliability Criteria Agreement shall affect the right of IID, subject to any necessary regulatory approval, to take such other measures to maintain reliability, including disconnection, which IID may otherwise be entitled to take.

5.5.8 Severability

If one or more provisions of this Section 5.5 shall be invalid, illegal or unenforceable in any respect, it shall be given effect to the extent permitted by applicable law, and such invalidity, illegality or unenforceability shall not affect the validity of the other provisions of this Agreement.

5.5.9 Termination

CEOE may terminate its obligations pursuant to this Section 5.5: (a) if after the effective date of this Agreement, the requirements of the WECC Reliability Criteria Agreement applicable to CEOE are amended so as to adversely affect CEOE, provided that CEOE gives fifteen (15) days' notice of such termination to IID and the WECC within forty-five (45) days of the date of issuance of a FERC order accepting such amendment for filing, provided further that the forty-five (45) day period within which notice of termination is required may be extended by CEOE

for an additional forty-five (45) days if CEOE gives written notice to IID of such requested extension within the initial forty-five (45) day period; or(b) for any reason on one year's written notice to the IID and the WECC.

5.5.10 Mutual Agreement
This Section 5.5 may be terminated at any time by mutual agreement of IID and CEOE.

5.6 Access:
The Parties shall provide each other such easements and/or access rights as may be necessary for either Party's performance of their respective operational obligations under this Agreement. Notwithstanding anything stated herein, a Party performing operational work within the boundaries of the other Party's facilities must abide by the rules applicable to that site. CEOE shall provide an easement for IID facilities located on CEOE's property at no cost to IID. All suitable easements or rights-of-way required by IID for any portion of the Interconnection Facilities which is on premises owned, leased or otherwise controlled by CEOE shall be furnished in IID's name by CEOE without cost to IID and in reasonable time to meet proposed service requirements. All easements or rights of way obtained on behalf of IID shall contain such terms and conditions as are mutually acceptable to the Parties.

5.7 Switching and Tagging Rules.
5.7.1 Compliance with Procedures. The Parties shall abide by IID's switching and tagging rules as IID may modify them from time to time. IID will notify CEOE in advance of any changes in the switching and tagging rules. CEOE will ensure its personnel are trained and knowledgeable of IID switching, tagging, grounding and isolation procedures. IID personnel will familiarize themselves with any differences in CEOE Switching and Tagging rules prior to working on any CEOE facilities. CEOE will notify IID of the differences in the Facility's switching and tagging rules (if any) as they may arise from time to time.

5.7.2 Clearances/Safety Issues. CEOE acknowledges that following an electric disturbance, certain equipment on the IID Transmission System may reclose in accordance with Good Utility Practice. CEOE shall have sole responsibility for protecting its electric system and all interconnected units and related equipment from any damage resulting from such reclosure. To the extent not prohibited by applicable law, CEOE hereby indemnifies and agrees to hold harmless IID and its trustees, officers, employees and agents from and against any and all losses, liabilities, injuries, damages, costs and expenses caused by, resulting from or arising out of (1) any damage to any of CEOE's electric system or any interconnected unit (or related equipment) to the extent caused by, resulting from, or arising out of any such reclosure and (2) death or injury of any persons to the extent caused by, resulting from, or arising out of any impact or effect of any such reclosure upon CEOE's electric system or any interconnected unit (or related equipment).

If, for any reason, any interconnected unit is disconnected from the Transmission System (by electric disturbance, line switching, or otherwise), CEOE shall cause the switching device connecting the interconnected unit to the Transmission System to become and remain open and not reclose until IID approves the reclosure.

All generators shall have disconnect switches between the step-up transformer and the substation regardless of the configuration of the generator breaker. IID personnel shall have access to the switch. Before issuing clearances, IID requires all switching devices at sources of power supply to be checked open, locked when possible and tagged in order to provide a clear visual confirmation that there is no connectivity to a power source.

5.8 Joint Use Facilities.
In accordance with mutually-agreed upon operating procedures, IID and CEOE shall jointly operate any Joint Use Facilities in accordance with Good Utility Practice

and Prudent Industry Practices, respectively, including, switches as required; (2) in-service relay testing; (3) battery system testing and maintenance.

The Parties will adopt mutually agreeable standard operating procedures for Joint Use Facilities on or before a mutually agreeable date not later than ninety (90) days prior to the Facility's commencement of commercial operations. Should operating procedures not be mutually agreed upon by a mutually agreeable date, the operating procedures already in existence at facilities owned by CEOE's Affiliates interconnected to the IID Transmission System will be used.

5.9 Reactive Power.

5.9.1 Obligation to Supply Reactive Power.

Except as otherwise provided in the PSA, at the request of the System Operator, CEOE will supply reactive power, at the Point(s) of Interconnection, to the IID Transmission System up to the amount sufficient to maintain a power factor between 0.95 leading and 0.95 lagging at rated capacity in accordance with Prudent Industry Practices. Provided CEOE's generator(s), at the facility, are in operation at the time of such requests, CEOE shall respond to requests from IID to increase or decrease generator reactive power output in a manner consistent with CEOE's obligation to operate the Facility: (1) in a safe and reliable manner; (2) in accordance with Prudent Industry Practices; (3) in accordance with applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, WECC and the RTO (if and as applicable); and (4) in accordance with the provisions of this Agreement. In the event IID system operator requests, and CEOE supplies, reactive power in excess of that sufficient to maintain a power factor between 0.95 leading and 0.95 lagging at rated capacity to the Transmission System, IID will pay CEOE for such reactive power in accordance with any effective rate schedule CEOE has for such service on file with FERC. If CEOE has no such rate, IID will pay CEOE the rate IID charges for such service.

5.9.2 Reactive Power Standards.

The Facility power factor design limitation minimum requirement shall be a reactive power capability of sufficient MVAR that would result in a power delivery at the Point(s) of Interconnection at a power factor between 0.95 leading and 0.95 lagging at rated capacity. Under normal operating conditions, CEOE shall operate the Facility to maintain a voltage at the Point(s) of Interconnection as prescribed by IID System Operator or designated representative within the Facility's power factor design limitations.

In the event that the voltage at the Point(s) of Interconnection cannot be or is not maintained within this requirement, the System Operator may request the Facility to be operated (within the design limitation of the equipment in service at the time) to produce its maximum available reactive power output (measured in MVAR) in order to achieve the prescribed voltage, provided that the System Operator requests that other generating facilities and other reactive compensation resources in the affected area (including but not limited to CEOE's facilities) to also produce their maximum available reactive power output (measured in MVAR) in order to achieve the prescribed voltage. CEOE shall promptly comply with such requests made by the System Operator.

In the event that, under normal Transmission System operating conditions the Facility is unable to consistently maintain a reactive power capability sufficient to maintain a power delivery at the Point(s) of Interconnection at a power factor between 0.95 leading and 0.95 lagging, CEOE shall take necessary steps to meet such standards, including, but not limited to, the installation of static and/or dynamic reactive power compensating devices. Should IID determine, in its sole discretion, that operation of CEOE's Facility at power factors not in compliance with IID standards may compromise the reliability or integrity of, or would materially adversely affect, IID's system or facilities, IID

may order CEOE to disconnect its Facility until such time as required remedies are made.

Records of requests made by the System Operator, and records indicating actual responses to these requests, will be maintained by IID and subject to a third party independent audit at CEOE's request and expense. Any such request for an audit must be presented to IID by CEOE no later than twenty-four (24) months following a request by the System Operator that the Facility produce its maximum available reactive power output.

5.10 Generation Alert.

System Operator will issue generation alerts when historically or through analysis it determines that the loss of a generating unit may create a system disturbance. When advised by the System Operator, CEOE will suspend non-essential maintenance on operational activities that could lead to the loss of the generation facility(ies) during the alerts.

5.11 Emergency.

During an Emergency as declared by the System Operator, in its sole discretion, or the security coordinator on the Transmission System or on an adjacent transmission system, the System Operator has the authority to direct CEOE to increase or decrease real power production (measured in MW) and/or reactive power production (measured in MVAR), within the design and operational limitations of the Facility equipment in service at the time the System Operator shall have the sole authority, exercised in accordance with Good Utility Practice to determine that: (1) the Transmission System security is threatened, and (2) any generator(s) on the Transmission System must increase or decrease real power and/or reactive power production; provided, however, IID will not penalize CEOE for instructed deviations during an Emergency. CEOE will follow the System Operator's orders and directives concerning Facility real power and/or reactive power output within the design limitations of the Facility's equipment in service at the time. IID shall restore the Transmission System conditions to normal as quickly as possible to alleviate any such Emergency. CEOE will be compensated for its provision of real power and/or reactive power needed to support the Transmission System during an Emergency in accordance

with any effective rate schedules CEOE has for such services on file with FERC in accordance with Article 16. CEOE will not be penalized, if at the direction of the System Operator, the Facility is operated at a Generation Imbalance. The System Operator will take reasonable steps to allocate among all generating units and other reactive compensation resources the responsibility to provide real power and/or reactive power support to the Transmission System.

5.12 Protection and System Quality.

5.12.1 Facilities.

CEOE shall, at its expense, install, maintain, and operate System Protection Facilities, including such protective and regulating devices as are required by NERC, WECC, and the RTO (if applicable) or required by order, rule or regulation of any duly-constituted regulatory authority having jurisdiction, or as are otherwise necessary to protect personnel and equipment and to minimize adverse effects to IID's electric service operation arising from the Facility. IID shall inform CEOE of any required System Protection Facilities. Any such System Protection Facilities that may be required on the Transmission System in connection with the operation of the Facility and in accordance with Good Utility Practice /Prudent Industry Practices (as appropriate) shall be installed by IID at CEOE's expense.

5.12.2 Protective Equipment.

CEOE agrees that protective equipment (relays, circuit breakers, etc.) must be installed to:

1) Insure safety of the general public, IID and CEOE personnel.
2) Minimize damage to the property of the general public, IID and the Facility.
3) Minimize adverse operating conditions on the Transmission System.
4) Permit CEOE to operate the Facility in parallel with the Transmission System in a safe and efficient manner.

CEOE shall install the necessary protective equipment at the Facility subject to IID review and approval.

In addition, certain other modifications and/or additions to the Transmission System may be required for Facility interconnection. Each individual request for interconnection must result in a protection system consistent with these technical requirements. All protective relays and schemes additions or modifications must be compatible with existing IID protective relay schemes. IID makes the final determination as to the protective devices and identifies modifications and/or additions required by the Facility. IID shall work cooperatively with CEOE to achieve an installation that meets CEOE's and IID's requirements.

CEOE shall be responsible for protection of the Facility and CEOE's other equipment from such conditions as negative sequence currents, over- or under-frequency, sudden load rejection, over- or under-voltage, and generator loss-of-field.

5.12.3 System Quality.
CEOE's Facility shall not cause excessive voltage excursions nor cause voltage on the Transmission System to drop below or rise above the range maintained by IID without CEOE's generation. CEOE's Facility shall not cause excessive voltage flicker on the Transmission System nor introduce excessive distortion to sinusoidal voltage or current waves on the Transmission System as defined by ANSI Standard C84.1-1989, or any applicable superseding electric industry standard. In the frequency range of 1 to 25 Hz, voltage flicker levels are unacceptable if either of the following conditions exist: (a) the cumulative RMS voltage flicker at the Points of Interconnection exceeds 0.30% for 1.0% of a representative time period, or (b) the instantaneous voltage flicker level regularly exceeds 0.45% at the Points of Interconnection (this is approximately equal to a cumulative RMS voltage flicker of 0.45% for 0.01% of a representative time period).

5.13 Inspection.
IID shall have the right at IID's cost, but shall have no obligation or responsibility, to: i) observe CEOE's

tests and/or inspection of any of CEOE's System Protection Facilities; ii) review the settings of CEOE's System Protection Facilities; and iii) review CEOE's maintenance records relative to CEOE's System Protection Facilities. IID may exercise the foregoing rights from time to time as deemed necessary by IID upon reasonable notice to CEOE. However, the exercise or non-exercise by IID of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Facility or CEOE's System Protection Facilities or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same.

5.14 Outages (Transmission and Generation).

5.14.1 Outage Coordinators.

In accordance with Good Utility Practice/Prudent Industry Practices (as appropriate), each Party may, in close cooperation with the other, remove from service its facilities that may impact the other Party's facilities as necessary to perform maintenance or testing or to install or replace equipment. Absent the existence or imminence of an Emergency, the Party scheduling a removal of a facility from service will use best efforts to schedule such removal on a date mutually acceptable to both Parties, in accordance with Good Utility Practice/Prudent Industry Practices (as appropriate).

5.14.2 Outage Restoration.

5.14.2.1 Unplanned Outage.

In the event of an Unplanned Outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service will use commercially reasonable efforts to promptly restore that facility to service in accordance with Good Utility Practice /Prudent Industry Practices (as appropriate).

5.14.2.2 Planned Outage.

In the event of a Planned Outage of a Party's facility that adversely affects

the other Party's facilities, the Party that owns or controls the facility to be taken out of service will use commercially reasonable efforts to promptly restore that facility to service in accordance with Good Utility Practice /Prudent Industry Practices (as appropriate) and in accordance with its schedule for the work that necessitated the Planned Outage.

5.14.2.3 Maintenance Outage.

In the event of a Maintenance Outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility to be taken out of service will use commercially reasonable efforts to promptly restore that facility to service in accordance with Good Utility Practice /Prudent Industry Practices (as appropriate) and in accordance with its schedule for the work that necessitated the Maintenance Outage.

5.14.2.4 Interruption.

If at any time, in IID's judgment exercised in accordance with Good Utility Practice or at the direction of the Security Coordinator, the continued operation of the Facility would cause an Emergency, IID may Curtail, interrupt, or order CEOE to reduce capacity, energy, and/or ancillary services delivered from the Facility to the Transmission System to the extent required to correct the Emergency, and IID may maintain such Curtailment, interruption, or reduction until the condition which would cause the Emergency is corrected. IID shall give CEOE as much notice as is reasonably practicable of IID's intention to Curtail or interrupt capacity, energy, and/or ancillary services delivery from the Facility in response to a condition that would cause an Emergency and, where practicable, allow suitable time for CEOE to remove or remedy such condition before any such Curtailment, interruption, or

reduction commences. In the event of any Curtailment, interruption, or reduction, IID shall promptly confer with CEOE regarding the conditions that gave rise to the Curtailment, interruption, or reduction, and IID shall give CEOE IID's recommendation, if any, concerning the timely correction of such conditions. IID shall promptly cease the Curtailment, interruption, of energy delivery and permit the Facility to return to normal operating conditions when the condition, which would cause the Emergency, ceases to exist or when the Facility may return to normal operating conditions without causing or contributing to the Emergency.

5.15 Disconnection.

5.15.1 Disconnection in Event of Emergency.

Subject to the provisions of Article 7 and Section 5.14.2.4 and in accordance with Good Utility Practice/Prudent Industry Practices (as appropriate), IID or CEOE shall have the right to disconnect the Facility without notice if, in IID's or CEOE's sole determination, an Emergency exists and immediate disconnection is necessary to protect persons or property from damage or interference caused by CEOE's interconnection or lack of proper or properly operating protective devices.

5.15.2 Disconnection during Under-frequency Load Shed Event.

The Parties shall at all times comply with NERC, WECC and RTO (if applicable) mandates. NERC planning criteria requires the interconnected transmission system frequency be maintained between 59.95 Hz and 60.05 Hz. WECC has an off-nominal frequency program to which the Transmission System adheres and all generators must also comply. In the event of an under-frequency system disturbance, the Transmission System is designed to automatically activate a multi-tiered load shed program. Load sheds occur at 59.6, 59.5, 59.3, 58.9, 58.7, 58.5, 58.3 and 57.9 Hz, respectively. To ensure "ride-through" capability of the Transmission System, CEOE

shall implement an under-frequency relay set point for the Facility, which is in compliance with WECC criteria.

5.16 Continuity of Service.

Notwithstanding any other provision of this Agreement, IID shall not be obligated to accept, and IID may require CEOE to Curtail, interrupt or reduce, deliveries of energy, if such delivery of energy impairs IID's ability to construct, install, repair, replace or remove any of its equipment or any part of its system or if IID determines that Curtailment, interruption or reduction is necessary because of Emergencies, forced outages, operating conditions on its system, or any reason otherwise permitted by Good Utility Practices or Applicable Laws. The Parties shall coordinate, and if necessary negotiate in good faith, the timing of such Curtailments, interruptions, reductions or deliveries with respect to maintenance, investigation or inspection of IID's equipment or system. CEOE reserves all rights under the applicable federal and state laws and regulations to commence an action with any governmental authority with appropriate jurisdiction over the Parties to enforce the provisions of this Section 5.15. Except in case of Emergency, in order not to interfere unreasonably with the other Party's operations, the Curtailing, interrupting or reducing Party shall give the other Party reasonable prior notice of any Curtailment, interruption or reduction, the reason for its occurrence, and its probable duration.

ARTICLE 6
MAINTENANCE

6.1 IID Obligations.

IID shall maintain IID's facilities and equipment, to the extent they might reasonably be expected to have an impact on the operation of the Facility: (1) in a safe and reliable manner; (2) in accordance with Good Utility Practice; (3) in accordance with applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, WECC, the RTO (if applicable) and any governmental entity; (4) in accordance with the provisions of this Agreement; and (5) in accordance with Applicable Laws.

6.2 **CEOE Obligations.**
CEOE shall maintain CEOE's facilities and equipment, to the extent they might reasonably be expected to have an impact on the operation of the Transmission System, Interconnection Facilities and IID's other systems: (1) in a safe and reliable manner; (2) in accordance with Prudent Industry Practices; (3) in accordance with applicable operational and/or reliability criteria, protocols, and directives, including those of NERC, WECC, the RTO (if applicable) and any governmental entity; (4) in accordance with the provisions of this Agreement; and (5) in accordance with Applicable Laws.

6.3 **Access Rights.**
The Parties shall provide each other such easements and/or access rights as may be necessary for either Party's performance of their respective maintenance obligations under this Agreement; provided that, notwithstanding anything stated herein, a Party performing maintenance work within the boundaries of the other Party's facilities must abide by the rules applicable to that site and provide reasonable advance notice.

6.4 **Maintenance Expenses.**
Each Party shall be responsible for all expenses associated with: (1) maintaining its own property, equipment, facilities, and appurtenances on its side of the Point(s) of Interconnection, and (2) maintaining its Interconnection Facilities.

6.5 **Coordination.**
The Parties agree to confer as necessary in order to communicate and coordinate the planning and scheduling of preventative and corrective maintenance. Each Party shall conduct preventive and corrective maintenance activities as planned and scheduled in accordance with this section or as otherwise may be required by the RTO (if and as applicable).

6.6 **Inspections and Testing.**
Each Party shall perform routine inspection and testing of its facilities and equipment in accordance with RMS and Good Utility Practice/ Prudent Industry Practices, as appropriate, as may be necessary to ensure the

continued interconnection of the Facility with the Transmission System in a safe and reliable manner and shall provide such information as a result of such inspection and/or tests upon request.

6.7 Right to Observe Testing.
Each Party shall, at its own expense, have the right to observe the testing of any of the other Party's facilities and equipment whose performance may reasonably be expected to affect the reliability of the observing Party's facilities and equipment. Each Party shall notify the other Party in advance of its performance of such tests, and the other Party may have a representative attend and be present during such testing.

6.8 Cooperation.
Each Party agrees to cooperate with the other in the inspection, maintenance, and testing of those secondary systems directly affecting the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party will provide advance notice to the other Party before undertaking any work in these areas, especially in electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.

6.9 Observation of Deficiencies.
If a Party observes any deficiencies or defects on, or becomes aware of a lack of scheduled maintenance and testing with respect to, the other Party's facilities and equipment that might reasonably be expected to adversely affect the observing Party's facilities and equipment, the observing Party shall provide notice to the other Party that is prompt under the circumstances, and the other Party shall make any corrections required in accordance with Good Utility Practice/Prudent Industry Practices (as appropriate). The observing Party is under no obligation to inspect.

ARTICLE 7
EMERGENCIES

7.1 Obligations.
Each Party agrees to comply with NERC, WECC and the RTO (if and as applicable) emergency procedures, as they may

be amended from time to time, and IID and CEOE emergency procedures, as applicable, upon written notification from the Party seeking to enforce the emergency procedures, with respect to Emergencies.

7.2 Notice.

IID shall provide CEOE with notification that is prompt under the circumstances of an Emergency that may reasonably be expected to affect CEOE's operation of the Facility or the Joint Use Facilities, to the extent IID is aware of the Emergency. CEOE shall provide the System Operator with oral notification that is prompt under the circumstances of an Emergency, which may reasonably be expected to affect the Transmission System, Interconnection Facilities, or the Joint Use Facilities, to the extent CEOE is aware of the Emergency. To the extent the Party becoming aware of an Emergency is aware of the facts of the Emergency, such notification shall describe the Emergency, the extent of the damage or deficiency, its anticipated duration, and the corrective action taken and/or to be taken, and shall be followed as soon as practicable with written notice.

7.3 Immediate Action.

In the event of an Emergency, the Party becoming aware of the Emergency may, in accordance with Good Utility Practice/Prudent Industry Practices (as appropriate), take such action as is reasonable and necessary to prevent, avoid, or mitigate injury, danger, and loss. With the exception of Joint Use Facilities, in the event CEOE has identified an Emergency involving the Transmission System and/or IID owned Interconnection Facilities, CEOE shall obtain the consent of IID personnel prior to manually performing any switching operations unless, in CEOE's reasonable judgment, immediate action is required.

7.4 IID Authority.

IID may, consistent with Good Utility Practice, take whatever action or inaction with regard to the Transmission System and Interconnection Facilities IID deems necessary during an Emergency in order to: (1) preserve public health and safety; (2) preserve the reliability of the Transmission System and/or Interconnection Facilities; (3) limit or prevent damage; and (4) expedite restoration of service. IID shall use

reasonable efforts to minimize the effect of such actions or inactions on the Facility.

7.5 CE Authority.
CEOE may, consistent with Prudent Industry Practices, take whatever action or inaction with regard to the Facility or CEOE owned Interconnection Facilities CEOE deems necessary during an Emergency in order to: (1) preserve public health and safety; (2) preserve the reliability of the Facility; (3) limit or prevent damage; and (4) expedite restoration of service. CEOE shall use reasonable efforts to minimize the effect of such actions or inactions on the Transmission System and/or the Interconnection Facilities.

7.6 Audit Rights.
Each Party shall keep and maintain a record of actions taken during an Emergency that may reasonably be expected to impact the other Party's facilities and make such records available for third party independent audit upon the request and expense of the Party affected by such action. Any such request for an audit will be no later than twenty-four (24) months following the action taken.

ARTICLE 8
SAFETY

8.1 General.
IID and CEOE agree that all work performed by either Party that may reasonably be expected to affect the other Party shall be performed in accordance with Good Utility Practice/Prudent Industry Practices (as appropriate) and all Applicable Laws pertaining to the safety of persons or property. A Party performing work within the boundaries of the other Party's facilities must abide by the safety rules applicable to the site.

8.2 Environmental Releases.
Each Party shall notify the other Party, first orally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities which may reasonably be expected to affect the Facility, Interconnection Facilities, and the Transmission System, as soon as possible but not later than twenty-four (24) hours after the Party becomes aware of the occurrence,

and shall promptly furnish to the other Party copies of any reports filed with any governmental or other agencies addressing such events.

ARTICLE 9
MODIFICATIONS, CONSTRUCTION, INTERCONNECTION FACILITIES AND SYSTEM UPGRADES

9.1 Modifications.

9.1.1 General.

Either Party may undertake modifications to its facilities. In the event either Party plans to undertake a modification that reasonably may be expected to impact the other Party's facilities, such Party, shall provide the other Party with sufficient information regarding such modification, including, without limitation, the notice required in accordance with Article 26 to allow the other party to evaluate the potential impact of such modification prior to commencement of the work. The Party proposing to undertake modifications shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) days in advance of the work or such shorter period upon which the Parties may agree, which agreement will not unreasonably be withheld or delayed.

9.2 Construction.

9.2.1 Land Rights.

Except as specifically provided in the PSA, CEOE shall furnish at no cost to IID any necessary access, easements, licenses, and/or rights of way upon, over, under, and across lands owned or controlled by CEOE and/or its Affiliates interests for the construction and operation of necessary lines, substations, and other equipment to accomplish interconnection of the Facility with the Transmission System under this Agreement and shall, at all reasonable times, give IID, or its agents, free access to such lines, substations, and equipment. An accessible, protected and satisfactory site selected upon mutual agreement by the Parties and located on CEOE's premises shall be provided by and at CEOE's expense for installation of metering

devices, unless IID elects to install meters on poles or other locations controlled by it. CEOE grants to IID at all reasonable times and with reasonable advance notice and supervision, the right of free ingress and egress to CEOE's premises for the purpose of installing, testing, reading, inspecting, repairing, operating, altering or removing any of IID's property located on CEOE's premises or for other purposes necessary to enable IID to interconnect and receive electric energy as provided in this Agreement, suspend the receipt of electric energy thereof, or determine CEOE's compliance with this Agreement.

Except as otherwise provided in the PSA, if any part of IID's facilities necessary for the interconnection of the Facility to the Transmission System are to be installed on property owned by other than CEOE, CEOE shall, if IID is unable to do so without cost to IID, use its best efforts to procure from the owners thereof any necessary rights of use, licenses, rights of way and easements, in a form reasonably satisfactory to IID, for the construction, operation, maintenance and replacement of IID facilities upon such property. In the event CEOE is unable to secure such necessary rights, upon request of CEOE, IID shall do so (a) by condemnation proceedings or (b) by other means and CEOE shall reimburse IID for all reasonable and documented costs incurred by IID in securing such rights.

In connection with IID's exercise of rights under this Article 9.2, while on CEOE's premises, IID's personnel and agents shall at a minimum comply with all applicable safety rules or regulations of CEOE that are provided by CEOE to IID.

9.2.2 Facility and Equipment Design and Construction. Except as otherwise provided in the PSA, CEOE shall, at its sole expense, design, construct, and install the Interconnection Facilities as needed to interconnect the Facility with IID Transmission System, except for any

Interconnection Facilities or System Upgrades constructed, installed and maintained by IID.

CEOE owned and maintained Interconnection Facilities and equipment shall satisfy all requirements of applicable safety and/or engineering codes, including IID's, and further, shall satisfy all requirements of any duly-constituted regulatory authority having jurisdiction.

CEOE shall submit all specifications for CEOE's Interconnection Facilities, including System Protection Facilities, to IID for review at least ninety (90) days prior to interconnecting such Interconnection Facilities with the Transmission System in order to insure that such interconnection is consistent with operational control, reliability and/or safety standards or requirements of IID.

IID's review of CEOE's specifications shall be construed neither as confirming nor as endorsing the design, nor as any warranty as to fitness, safety, durability, reliability or compliance with Applicable Laws or standards of CEOE's Interconnection Facilities. IID shall not, by reason of such review or failure to review, be responsible for strength, details of design, adequacy or capacity of CEOE's Interconnection Facilities or equipment, nor shall IID's acceptance be deemed to be an endorsement of any facility or equipment. CEOE agrees to make changes to its Interconnection Facilities and equipment as may be reasonably required to meet the reasonable requirements of IID.

9.3 Interconnection Facilities.

Except as otherwise provided in the PSA, the construction and/or installation of any facilities or equipment needed to interconnect CEOE's Facility with the Transmission System is the responsibility of CEOE. Interconnection Facilities must be built, operated and maintained in accordance with IID's standards and practices. CEOE has requested IID complete the construction of the SB line by October 1, 2005. IID agrees that it will have the line ready by October 1,

2005. In return, upon completion of the line, CEOE will pay IID a premium for having the line completed before March 1, 2006. For every month earlier IID completes the line, CEOE commits to paying IID the interest at 6% on $11.9 million (the identified cost of constructing the SB line), per month for up to 5 months. Payment is due for the full month prior to March 1, 2006 in which the line is in service. The physical interconnection of CEOE's facilities to the Transmission System shall be performed by IID or its designated agent.

9.4 System Upgrades.

If as a result of an Interconnection Study it is determined that upgrades are required to be made to the Transmission System as a direct result of CEOE's request for interconnection of its Facility, the cost responsibility for such upgrades will be evaluated and determined as part of CEOE's request to interconnect its Facility with the Transmission System and in conjunction with a request for Transmission Service.

9.4.1 Cost Responsibility.

CEOE will be responsible to pay for the costs of upgrades determined to be necessary to interconnect the Facility to the Transmission System.

9.4.2 Transmission Credits.

IID shall determine what portion of such system upgrades provide benefit to the Transmission System and identify the costs associated with these upgrades. Upon CEOE securing Transmission Service (either firm or non-firm) from IID for delivery of capacity and/or energy from CEOE's Facility, a transmission credit shall be allowed. CEOE may transfer or assign such credits to another entity.

9.5 Drawings.

Upon completion of any construction or modification to CEOE's facilities and equipment that may reasonably be expected to affect the Transmission System, but not later than ninety (90) days thereafter, CEOE shall issue "as built" drawings to IID, unless the Parties mutually agree that such drawings are not necessary.

ARTICLE 10
METERING

10.1 General.

Except as otherwise provided in the PSA, including but not limited to Section 6.2 thereof, CEOE shall be responsible for providing, installing and maintaining all Metering Equipment required to meet the Parties' obligations under this Agreement, and IID's OATT, and in accordance with IID's metering standards. The Electricity Meters shall at a minimum be capable of measuring KWs, MVARs, KWHs and MVARHs of the Facility in accordance with appropriate NERC criteria and Prudent Industry Practices. Metering Equipment shall be either located or appropriately adjusted, at IID's option, in such manner to account for any transformation or interconnection losses between the location of the meter and the Points of Interconnection. Metering data, in analog and/or digital form, shall be provided to each of the Parties. Except as otherwise provided in the PSA, including but not limited to Section 6.2 thereof, all costs associated with the administration of Metering Equipment and the provision of metering data shall be borne by CEOE.

10.2 Ownership of Metering Equipment.

Subject to the provisions of the PSA, IID or CEOE as mutually agreed, shall provide and install Metering Equipment, as per IID's specifications, necessary to meter the electrical output of the Facility. Except as specifically provided in the PSA, IID will own, operate, test and maintain such metering equipment.

10.3 Testing of Metering Equipment.

Except as specifically provided in the PSA, including but not limited to Section 6.2 thereof, all Metering Equipment shall, at CEOE's expense, be inspected and tested upon installation and at least once every year thereafter. If requested to do so by a Party, the owner of the Metering Equipment shall inspect or test Metering Equipment more frequently than every year, at the expense of the requesting Party unless the Metering Equipment is found to be inaccurate by more than ± 0.3%. The testing Party shall give reasonable notice of the time when any inspection or test shall take place and the other Party may have representatives present at the test or inspection. If Metering Equipment is found to be

inaccurate or defective, it shall be adjusted, repaired or replaced at the Metering Equipment owner's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than three tenths of one percent (0.3%) from the measurement made by the standard meter used in the test, adjustment shall be made correcting all measurements made by the inaccurate meter for: a) The actual period during which inaccurate measurements were made, if the period can be determined, or if not, b) the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last previous test of the Metering Equipment; provided that the period covered by the correction shall not exceed six months.

10.4 Metering Data.

Hourly energy readings shall be made available and submitted to IID electronically on a schedule designated by IID. At CEOE's expense, CEOE's metered data shall be telemetered to one or more locations designated by IID and one or more locations designated by CEOE.

10.5 Communications.

10.5.1 At CEOE's expense, CEOE shall maintain reliable operating communications with the System Operator at a minimum annual availability of 99.98%. CEOE will provide standard voice and facsimile communications at its Facility control room through use of a high reliability private network telephone system. CEOE will also provide a 4-wire, full duplex data circuit (or circuits), over a high reliability private network, operating at 1200 baud, or at other baud rates as specified by IID. The data circuit(s) shall extend from CEOE's Facility to a location(s) specified by IID. Any required maintenance of such communications equipment shall be performed at CEOE's expense, but may be performed by CEOE or by IID. Operational communications shall be activated and maintained under, but not be limited to, the following events: emergencies, system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, and hourly and daily load data.

10.5.2 A Remote Terminal Unit ("RTU") or equivalent data collection and transfer equipment acceptable to both Parties shall be installed by CEOE, or by IID at CEOE's expense, to gather accumulated and instantaneous data to be telemetered to a location(s) designated by IID through use of a dedicated point-to-point data circuit(s). CEOE shall install or facilitate installation of such equipment as soon as practicable, provided that installation shall be accomplished prior to the date of unit testing or the date of commercial operation, whichever comes first. The communication protocol for this data circuit(s) will be specified in writing by IID on or prior to the initial date of facility testing. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by IID.

ARTICLE 11
INFORMATION REPORTING

11.1 General.
CEOE shall provide to IID all information, documents, or data reasonably required for IID to fulfill its obligations to NERC, WECC, the RTO (if and as applicable) or any other entity requiring system information. Such data shall be supplied in a time frame designated by IID in writing to meet these obligations.

11.2 Compliance Monitoring Reporting.
CEOE shall provide all information, documents, or data requested by NERC, WECC, the RTO (if and as applicable) or any other entity requiring system information for purposes of compliance monitoring. The information, documents, or data shall be provided to IID or to the compliance program sponsor as required by the specific compliance program.

11.3 Regulatory Agency Reporting.
Upon IID's timely request, CEOE shall provide to IID all information, documents, or data which is required by IID to fulfill IID's reporting obligation to any governmental, regulatory, or other agency such as, but

not limited to the California Public Utilities Commission (CPUC) or the FERC.

11.4 Penalties.
CEOE shall be responsible for all penalties, monetary or other penalties, incurred or imposed upon IID due to CEOE's failure to report information within the time frame specified by IID, if IID has provided CEOE timely notice of the need for use of, and the deadline for, submitting such information.

ARTICLE 12
USE OF INTERCONNECTION FACILITIES BY OTHERS

If another generation facility, including any IID affiliate or non-affiliate, requests the interconnection of a generation facility to the Transmission System and such request requires use of the Interconnection Facilities, to the extent adequate capacity exists over the Interconnection Facilities at issue, IID may utilize said Interconnection Facilities, if they are owned by IID, as necessary to interconnect other generation facilities to the Transmission System.

In the event other generators utilize the Interconnection Facilities at issue under this Agreement, IID will require the other generation facility(ies) to remit to IID the cost associated with their use of these facilities an amount equal to:

NGCO= [NGC / (OGC + NGC)] * OCLD

Where:

NGCO = New generator's cost of facilities obligation

NGC = New generator's total transmission capacity over the Interconnection Facilities at the date commercial operation of their unit commences, including that for firm and non-firm transmission capacity

OGC = CEOE's total transmission capacity (firm and non-firm) over the portion of the Interconnection Facilities mutually used by both generators at the date of commercial operation of new generation facility

OCLD = The original cost less depreciation, as recorded in CEOE's books, of the components of the Interconnection Facilities to be used by the other generation facility

IID shall in turn remit payments made by the new generation facilities for NGCO to CEOE within 30 days of the receipt of such payment.

Any new generation facility(ies) utilizing the Interconnection Facilities at issue under this Agreement shall also share as follows in all monthly direct assignment charges that IID assesses CEOE for the Interconnection Facilities:

NGMC= [(NGC / (OGC + NGC)) * (NGOCLD / COCLD)] * DAC

Where:

NGMC = New generator's share of the monthly direct assignment charge

NGC = New generator's total transmission capacity over the Interconnection Facilities at the date commercial operation of their unit(s) commences, including that for firm and non-firm transmission capacity

OGC = CEOE's total transmission capacity (firm and non-firm) over the portion of the Interconnection Facilities mutually used by both generators at the date of commercial operation of the new generator's facilities

NGOCLD = The amount of the original cost less depreciation (as recorded in CEOE's books) of components of the Interconnection Facilities used by the other generation facility

COCLD = The original cost less depreciation value (as recorded by the CEOE) of the total Interconnection Facility

DAC = The monthly direct assignment charge that IID currently assesses the CEOE

IID will assess the new generation facility its proportional share of the monthly direct assignment charge assessed to CEOE, and make a corresponding reduction in the monthly direct assignment charge assessed to CEOE.

In the event any additional generators utilize any remaining capacity over the Interconnection Facilities at issue under this Agreement, IID shall revise the calculations of NGMC and NGCO for each affected entity as appropriate.

ARTICLE 13
FACILITY POWER REQUIREMENTS

This Agreement does not address nor provide for the electric power that CEOE's Facility may require for station power, auxiliary power, or any other power requirements that might be associated with CEOE's Facility. Unless otherwise demonstrated, these electric requirements must be secured under a separate agreement, including but not limited to the PSA.

ARTICLE 14
FORCE MAJEURE

Neither IID nor CEOE will be considered in default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure. However, a Party whose performance under this Agreement is hindered by an event of Force Majeure shall make all reasonable efforts to perform its obligations under this Agreement. The claiming party shall be excused only for the period of time and to the extent necessary for the claiming Party, using all reasonable efforts, to cure or mitigate expeditiously the effects of the Force Majeure event; provided, however, that this provision does not require the claiming Party to settle any strike or other labor dispute.

The Party unable to carry out an obligation imposed on it by this Agreement due to Force Majeure shall notify the other Party in writing (to include by facsimile or email) or by telephone as soon as practicable, but no more than seventy-two (72) hours after the claiming party learns of the occurrence of such Force Majeure event, the extent to which the claiming party's ability to perform has been affected, and an estimate of the duration of the claiming party's inability to perform.

ARTICLE 15
CREDITWORTHINESS

For purposes of determining CEOE's ability to meet its obligations hereunder or at any time thereafter during the term of this Agreement, IID may require CEOE to provide and maintain in effect a letter of credit or other form of security to meet CEOE's responsibilities and obligations or an alternative form of security consistent with commercial practices established by the Uniform Commercial Code that protects IID against non-payment. In any instance where facilities to be built require IID to incur costs, IID will not be obligated to incur any costs until CEOE provides IID with a letter of credit or other reasonable form of security acceptable to IID for the amount IID has expended on such facilities up to that calendar quarter, consistent with commercial practices as established by the Uniform Commercial Code, equivalent to the costs of the new facilities, or upgrades. CEOE's obligation to maintain the letter of credit or other reasonable form of security will not extend beyond the later of the Commercial Operation Date or the first sale of Energy (not including Test Energy) to IID under the PSA has commenced. CEOE's obligation shall not start before CEOE receives financing for construction of the Facility. The amount and timing required for the letter of credit or other form of security will be as defined in Appendix A.

ARTICLE 16
PAYMENTS AND BILLING PROCEDURES

16.1 General.
Except as specifically provided in the PSA, including but not limited to Section 10 thereof, for payments for energy under its provisions, within a reasonable time after the first day of each month, each Party shall prepare and deliver to the other Party an invoice for those reimbursable services provided to the other Party under this Agreement during the preceding month.

16.2 Invoice.
Each invoice shall delineate the month in which the services were provided, shall fully describe the services rendered, and shall be itemized to reflect the services performed or provided.

16.3 Payment.
The invoice shall be paid within twenty (20) calendar days of receipt. All payments shall be made in

immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party.

16.4 Disputes.
Disputed amounts shall be paid on or before the invoice payment due date. Such amounts shall be paid into an escrow account pending resolution of the dispute. In the event the dispute is resolved in favor of the Party disputing payment, the Party required to pay back disputed amounts shall, within thirty (30) days of resolution of the dispute, make payment with interest as calculated in accordance with Article 16.6 hereof.

16.5 Waiver.
Payment of an invoice shall not relieve the paying Party from any other responsibilities or obligations it has under this Agreement, nor shall such payment constitute a waiver of any claims arising hereunder.

16.6 Interest.
Interest on any unpaid amounts, including disputed amounts, shall be calculated using an interest rate equal to the "Prime Rate" for domestic banks, as published in The Wall Street Journal in the "Money Rates" section, in effect on the date payment is due, plus one percent (1%) per annum, not to exceed the maximum rate allowed by applicable law. Interest on unpaid amounts shall be calculated from the due date of the invoice to the date of payment. When payments are made by mail, invoices shall be considered as having been paid on the date of receipt by the other Party.

16.7 Payment During Dispute.
In the event of a billing dispute between IID and the CEOE, each Party shall continue to provide services and pay all invoices.

ARTICLE 17
ASSIGNMENT

17.1 Subject to Section 17.2 below, neither Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Party, which consent shall not be unreasonably withheld, except in connection with the sale, merger, or transfer of a

substantial portion of its properties (or in the case of IID, its transmission facilities) including the Interconnection Facilities which it owns so long as the assignee in such a sale, merger, or transfer assumes directly all rights, duties and obligations arising under this Agreement. Any such assignment or delegation made without such written consent shall be null and void.

17.2 An assignment of a substantial portion of all properties by sale, merger or transfer in which the assignee assumes directly all rights, duties and obligations arising under this Agreement does not require prior consent. In addition and notwithstanding Section 17.1 above, CEOE or its assignee may assign this Agreement to the persons, entities or institutions providing financing or refinancing for the development, design, construction or operation of the Facility and if CEOE provides notice thereof to IID, IID shall provide notice and reasonable opportunity for such lenders to cure any default under this Agreement. IID shall, if requested by such lenders, execute consents to assignment and other documents as are reasonably requested by such lenders, in a form conventionally required for similar financings and reasonably acceptable to IID, including but not limited to provisions for payments to bank accounts controlled by such lenders, for notices of Default to lenders, and for lender cure rights and cure periods, provided such documents do not change the rights of IID under this Agreement except with respect to providing notice and reasonable opportunity to cure. In the event of any foreclosure by such lenders, the purchasers at such foreclosure or any subsequent purchaser shall upon request, be entitled to the rights and benefits of (and be bound by) this Agreement so long as it is an entity entitled to interconnect with the Transmission System.

ARTICLE 18
INSURANCE

18.1 Without limiting any obligations or liabilities under this Agreement, CEOE shall, at its expense, provide and maintain in effect for the life of this Agreement, minimum insurance coverage (in any combination of primary and excess layers), as follows:

18.1.1 Workers' Compensation insurance in accordance with all applicable state, federal, and maritime laws, including Employer's Liability Insurance in the amount of $1,000,000 per accident. Policy shall be endorsed to include a Waiver of Subrogation in favor of IID and its affiliated and associated companies.

18.1.2 Commercial General Liability Insurance, including Contractual Liability Coverage for liabilities assumed under this Agreement, and Personal Injury Coverage in the amount of $25,000,000 per occurrence for Bodily Injury and Property Damage. Policy shall be endorsed (substantially in the form shown in Appendix D) to include IID and its affiliated and associated companies as Additional Insureds.

18.1.3 Notwithstanding the foregoing, each Party may self-insure to the extent it maintains a self-insurance program; provided that, such Party's senior secured debt is rated at investment grade, or better, by Standard & Poor's. For any period that a Party's senior secured debt is unrated by Standard & Poor's or is rated at less than investment grade by Standard & Poor's, such Party shall comply with the insurance requirements applicable to it under Articles 18.1.1 and 18.1.2. In the event a party is permitted to self-insure pursuant to this Article 18.1.3, it shall not be required to comply with the insurance requirements applicable to it under Articles 18.1.1 and 18.1.2.

18.2 All policies of insurance shall provide for 30 days prior written notice of cancellation, or material adverse change. Prior to the date of the construction of the Facility and annually thereafter during the term of this Agreement, Certificates of Insurance shall be furnished by CEOE to IID. IID shall furnish Certificates of Insurance to CEOE prior to the date IID begins construction of the Interconnection Facilities and annually thereafter during the term of this Agreement.

ARTICLE 19
LIABILITY AND INDEMNIFICATION

19.1 Indemnity.

The Parties shall at all times indemnify, defend, and save the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this Agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

19.1.1 Indemnified Person.

If an indemnified person is entitled to indemnification under this Article 19 as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under Article 19.1, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

19.1.2 Indemnifying Party.

If an indemnifying Party is obligated to indemnify and hold any indemnified person harmless under this Article 19, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

19.1.3 Indemnity Procedures.

Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Article 19.1 may apply, the indemnified person shall notify the indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the

indemnifying Party. The indemnifying Party shall have the right to assume the defense thereof with counsel designated by such indemnifying Party and reasonably satisfactory to the indemnified person. If the defendants in any such action include one or more indemnified persons and the indemnifying Party and if the indemnified person reasonably concludes that there may be legal defenses available to it and/or other indemnified persons which are different from or additional to those available to the indemnifying Party, the indemnified person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on its own behalf. In such instances, the indemnifying Party shall only be required to pay the fees and expenses of one additional attorney to represent an indemnified person or indemnified persons having such differing or additional legal defenses. The indemnified person shall be entitled, at its expense, to participate in any such action, suit or proceeding, the defense of which has been assumed by the indemnifying Party. Notwithstanding the foregoing, the indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the indemnified person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the indemnified person, or there exists a conflict or adversity of interest between the indemnified person and the indemnifying Party, in such event the indemnifying Party shall pay the reasonable expenses of the indemnified person, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the indemnified person, which shall not be reasonably withheld, conditioned or delayed.

ARTICLE 20
BREACH, CURE AND DEFAULT

20.1 General.

A Breach of this Agreement ("Breach") shall occur upon the failure by a Party to perform or observe any material term or condition of this Agreement. A default of this Agreement ("Default") shall occur upon the failure of a Party in Breach of this Agreement to cure such Breach in accordance with the provisions of Section 20.4 of this Article 20.

20.2 Events of Breach.

A Breach of this Agreement shall include:

(a) The failure to pay any amount when due;

(b) The failure to comply with any material term or condition of this Agreement, including but not limited to any material Breach of a representation, warranty or covenant made in this Agreement;

(c) If a Party: (1) becomes insolvent; (2) files a voluntary petition in bankruptcy under any provision of any federal or state bankruptcy law or shall consent to the filing of any bankruptcy or reorganization petition against it under any similar law; (3) makes a general assignment for the benefit of its creditors; or (4) consents to the appointment of a receiver, trustee or liquidator;

(d) Assignment of this Agreement in a manner inconsistent with the terms of this Agreement;

(e) Failure of either Party to provide such access rights, or a Party's attempt to revoke or terminate such access rights, as provided under this Agreement; or

(f) Failure of either Party to provide information or data to the other Party as required under this Agreement within a reasonable time, provided the Party entitled to the information or data under this Agreement requires such information or data to satisfy its obligations under this Agreement.

20.3 Continued Operation.

In the event of a Breach or Default by either Party, the Parties shall continue to operate and maintain, as applicable, such DC power systems, protection and Metering Equipment, telemetering equipment, SCADA equipment, transformers, secondary systems, communications equipment, building facilities, software,

documentation, structural components, and other facilities and appurtenances that are reasonably necessary for IID to operate and maintain the Transmission System, or for CEOE to operate and maintain the Facility, in a safe and reliable manner.

20.4 Cure and Default.

Upon the occurrence of an event of Breach, the Party not in Breach (hereinafter the "Non-Breaching Party"), when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party (the "Breaching Party") and to any other person a Party to this Agreement identifies in writing to the other Party in advance. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach. Upon receiving written notice of the Breach hereunder, the Breaching Party shall have thirty (30) days to cure such Breach. If the Breach is such that it cannot be cured within thirty (30) days, the Breaching Party will commence in good faith all steps as are reasonable and appropriate to cure the Breach within such thirty (30) day time period and thereafter diligently pursue such action to completion. In the event the Breaching Party fails to cure the Breach, or to commence reasonable and appropriate steps to cure the Breach, within thirty (30) days of becoming aware of the Breach, the Breaching Party will be in Default of the Agreement.

20.5 Right to Compel Performance.

Notwithstanding the foregoing, upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to: (1) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof, and (2) exercise such other rights and remedies as it may have in equity or at law, including, but not limited to, the Federal Power Act or other FERC rules or regulations.

ARTICLE 21
TERMINATION OF INTERCONNECTION SERVICE

21.1 Expiration of Term.

Except as otherwise specified in this Article 21, Interconnection Service for the Facility terminates at

the conclusion of the Term of this Agreement stated in Article 2 of this Agreement.

21.2 Termination.

In the event of a Default, a non-Defaulting Party may terminate this Agreement only upon the later of:

(a) Written notice of termination to the other Party; and

(b) The filing at FERC of a notice of termination for the Agreement, which filing must be accepted for filing by FERC.

21.3 Survival of Rights.

Termination of this Agreement shall not relieve either Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder.

21.4 Disconnection after Agreement Terminates.

Upon termination of the Agreement by its terms, IID may disconnect the Facility from the Transmission System in accordance with a plan for disconnection upon which the Parties agree.

ARTICLE 22
SUBCONTRACTOR

22.1 General.

Nothing in this Agreement shall prevent a Party from utilizing the services of such subcontractors as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

22.2 Responsibility of Principal.

The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. Each Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this

Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

22.3 No Third Party Beneficiary.
Except as may be specifically set forth to the contrary herein, no subcontractor or any other party is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.

22.4 No Limitation by Insurance.
The obligations under this Article 22 will not be limited in any way by any limitation of subcontractor's insurance.

ARTICLE 23
CONFIDENTIALITY

23.1 Term.
During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article 23, each Party shall hold in confidence and shall not disclose to any person Confidential Information.

23.2 Scope.
Confidential Information shall not include information that the receiving Party can demonstrate: (1) is generally available to the public other than as a result of a disclosure by the receiving Party in Breach of this Agreement; (2) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (3) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party, after due inquiry, was under no obligation to the other Party to keep such information confidential; (4) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (5) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or Breach of this Agreement; or (6) is required, in accordance with Section 23.7 of this Article 23 of this Agreement, to be disclosed by any federal or state government or agency or is otherwise required to be disclosed by law or subpoena, or is necessary in any

legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information will no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

23.3 Release of Confidential Information.
Neither Party shall release or disclose Confidential Information to any other person, except to its employees, consultants, sub-contractors or to parties who may be considering, or are, providing financing to or equity participation with CEOE, on a need-to-know basis in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article 23 and has agreed to keep such information confidential. Notwithstanding the foregoing, a Party providing Confidential Information to any person shall remain primarily responsible for any release of Confidential Information in contravention of this Article 23.

23.4 Rights.
Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to the other Party. The disclosure by each Party to the other Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.

23.5 No Warranties.
By providing Confidential Information, neither Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential information, neither Party obligates itself to provide any particular information or Confidential Information to the other Party nor to enter into any further agreements or proceed with any other relationship or joint venture.

23.6 Standard of Care.
Each Party shall use at least the same standard of care to protect Confidential Information it receives as that it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to

fulfill its obligations to the other Party under this Agreement or its regulatory requirements.

23.7 Order of Disclosure.

If a Court or a government agency or entity with the right, power, and apparent authority to do so requests or requires either Party, by subpoena, oral deposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

23.8 Termination of Agreement.

Upon termination of this Agreement for any reason, each Party shall, within ten days of receipt of a written request from the other Party, use reasonable efforts to destroy, erase, or delete (with such destruction, erasure and deletion certified in writing to the other Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.

23.9 Remedies.

The Parties agree that monetary damages would be inadequate to compensate a Party for the other Party's Breach of its obligations under this Article 23. Each Party accordingly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party Breaches or threatens to Breach its obligations under this Article 23, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed to be an exclusive remedy for the Breach of this Article, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the

protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 23.

ARTICLE 24
AUDIT RIGHTS

Subject to the requirements of confidentiality under Article 23 of the Agreement, either Party shall have the right, during normal business hours, and upon prior reasonable notice to the other Party, to audit each other's accounts and records pertaining to either Party's performance and/or satisfaction of obligations arising under this Agreement. Said audit shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to obligations under this Agreement.

ARTICLE 25
DISPUTES

Except as otherwise provided in the PSA, disputes under this Agreement shall be resolved in accordance with procedures set forth in the IID Tariff, currently Section I, Chapter 12.

ARTICLE 26
NOTICES AND AUTHORIZED REPRESENTATIVES

26.1 Any notice, demand or request required or permitted to be given by either Party to the other and any instrument required or permitted to be tendered or delivered by either Party to the other may be so given, tendered or delivered, as the case may be, by either: special carrier service (e.g., Federal Express, UPS, etc.), or depositing the same in any United States Post Office with postage prepaid, for delivery by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out below as may be amended from time to time and posted on IID's OASIS which can be accessed at http://www.iidoasis.com:

To IID:

Imperial Irrigation District

P.O. Box 937

333 East Barioni Road

Imperial, California 92251

CC. General Counsel

Horton, Knox, Carter & Foote

895 Broadway

El Centro, CA 92243

To CEOE:

C/o CalEnergy Operating Corporation

7030 Gentry Road

Calipatria, CA 92233

Attention: President CalEnergy U.S.

CC. General Counsel

MidAmerican Energy Holdings Company

302 South 36th Street, Suite 400

Omaha, NE 68131-4500

26.2 Authorized Representatives.

IID and CEOE shall each designate an authorized representative(s) to this Agreement. The functions and responsibilities of the authorized representatives or designees of such persons shall be (i) to establish procedures, including procedures for giving notices, and standard practices consistent with the service to be provided for the guidance of system load dispatchers and other and administrative operating employees as to matters affecting operations of the respective systems, (ii) to do such other things as are necessary to administer and implement this Agreement; provided that the authorized representatives shall have no authority to amend any of the provisions of this Agreement. IID or CEOE may change its authorized representative(s) by giving either written notice or notice transmitted by one of the methods permitted in accordance with Section 26.1 to the other's authorized representative at any time.

ARTICLE 27
MISCELLANEOUS

27.1 Waiver.
Any waiver at any time by either Party of its rights with respect to a Breach of Default under this Agreement or with respect to any other matters arising in connection with this Agreement, shall not be deemed a waiver or continuing waiver with respect to any subsequent Breach or Default or other matter.

27.2 Governing Law.
The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the applicable laws of the State of California without regard to the conflicts of law provisions.

27.3 Performance of Obligations.
IID shall perform its obligations under this agreement in accordance with Good Utility Practice. CEOE shall perform its obligations under this agreement in accordance with Prudent Industry Practices.

27.4 Headings Not To Affect Meaning.
The descriptive headings of the various Sections and Articles of this Agreement have been inserted for convenience of reference only and shall in no way modify or restrict any of the terms and provisions hereof.

27.5 Amendments.
This Agreement may be amended by and only by a written instrument duly executed by both of the Parties hereto, except as specifically provided in Section 9 of the Tariff.

27.6 Entire Agreement.
This Agreement and the PSA constitute the entire agreement between the Parties hereto as of the date of signature with reference to the subject matter hereof and shall supersede all prior contracts, proposals, representations, negotiations, or letters pertaining to the services provided hereunder, whether written or oral. No change or modification as to any of the provisions hereof shall be binding on either Party unless reduced to writing and approved by the duly authorized officer or agent of CEOE and the President or

a Vice President of IID. The terms and conditions of this Agreement and every Appendix referred to herein shall be amended, as mutually agreed to by the Parties, to comply with changes or alterations made necessary by a valid applicable order of any governmental regulatory authority, or any court, having jurisdiction hereof.

27.7 Binding Effect.
This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and permitted assigns of the Parties hereto.

27.8 Conflicts.
In the event of a conflict between the body of this Agreement and any attachment, appendix or exhibit hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed to be the final intent of the Parties; provided however, that in the event of a conflict between this Agreement and the PSA, the specific terms and conditions in the PSA govern and shall prevail.

27.9 Attorney's Fees and Costs.
In any legal action filed in state or federal court to enforce any of the terms of this Agreement, the substantially prevailing Party shall be entitled to collect reasonable attorneys' fees and costs.

27.10 Transmission Service.
Except as specifically provided in the PSA, interconnection of the Applicant's generating facility with the Transmission System does not confer any right to use the Transmission System to transmit electric power and energy from CEOE's Facility to Point(s) of Delivery within or outside of IID's Control Area. Access to the Transmission System requires submittal of an Application for Transmission Service to IID pursuant to the terms and conditions of the Tariff. Applications for Transmission Service must be submitted to IID's OASIS, which can be accessed at http://www.iidsoasis.com.

27.11 Succession Upon Membership in an RTO
If and when IID joins an RTO, IID will first use every reasonable effort to honor the terms and conditions of its existing interconnection agreements, to the extent

grandfathering of such agreements is allowed. If IID is not able to grandfather the terms of existing agreements because the RTO's regulations will not allow it, the terms and conditions provided hereunder for interconnection with the Transmission System shall be superceded by any pertinent interconnection provisions required by the RTO. Nothing in this subsection will affect the existing terms and conditions in the PSA.

27.12 Specific Transmission Services. Nothing in this interconnection agreement shall be deemed to prejudice the Parties ability to negotiate any specific terms and conditions such as dynamic scheduling in subsequent transmission service agreements. Nor does this agreement require the Parties to agree to certain terms, such as dynamic scheduling, in any future transmission service agreements.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by their duly authorized officers on the day and year first above written.

WITNESS:

CE Obsidian Energy, LLC:

NAME: _____

TITLE: President DATE: 1-13-04

IMPERIAL IRRIGATION DISTRICT:

NAME: _____

Bruce Kuhn

TITLE: President,

Imperial Irrigation District, Board of Directors

DATE: 1-13-04

APPENDIX A
INTERCONNECTION FACILITIES & MILESTONES

This Appendix A is a part of the Interconnection Agreement between CEOE and IID.

1.0 Point of Interconnection.

The point of interconnection will be at IID's side of Switch 5 and Switch 8 as shown on Drawing No. E1-14 and Drawing No. E1-15, which drawings are attached hereto and made a part hereof.

2.0 Facilities.

2.1 Facilities to be Furnished by IID.

IID shall construct the SB and SN 161 kV transmission lines to the deadend structures including the drop to the bus at CEOE's substation as depicted on Drawing E1-15.

2.2 Facilities to be Furnished by CEOE.

CEOE will construct a four-breaker ring-bus substation (only three breakers will be installed initially) at the plant including the deadend structures, as depicted on Drawing E1-15.

3.0 Facilities.

3.1 Facilities Owned by IID.

IID will own a contiguous path from the SB 161 kV line through IID's breaker and switches to the SN 161 kV line shown on Drawing No. E1-15. The equipment shall include the deadend structures for the SB 161 kV line and the SN 161 kV line, breaker, switches, SW 6, SW 7, SW 9 and SW 10, line capacitor voltage transformers and current transformers and associated metering relay protection panels, communication equipment and SCADA and bus from CEOE's switch SW 5 to CEOE's switch SW 8. In addition the relay protection schemes and necessary communication equipment to protect the SB and SN line shall be consistent with the similar protection schemes to be

installed by IID at the Bannister and Niland substations. IID shall provide the relay protection scheme and communication requirements in accordance with the milestones below.

3.2 Facilities Owned by CEOE.

CEOE will own the remaining portion of the CEOE substation, including the bus from CEOE's switch, SW 5, at breaker SNEO through the connection of CEOE's generator step-up transformer connection and breaker SBWO to and including CEOE's switch SW8 shown on Drawing No. E1-15. CEOE shall own breakers SNEO and SBWO, switches SW 1, SW 2, SW 3, SW 4, SW 5 and SW 8, generator capacitor voltage transformers and current transformers, associated controls and control facilities, and the generator step-up transformer, as depicted on Drawing E1-15.

4.0 Cost Responsibility.

Under this agreement, CEOE will construct the Salton Sea Substation as shown within the fence line (including the fence itself) on Drawing No. E1-14 and Drawing No. E1-15 and transfer ownership of the facilities depicted within the IID fence-line (including the fence portion) on drawing E1-15 to IID upon completion. Although not depicted on the drawings, CEOE will also include appropriate lighting within the fence and equipment necessary to protect the SB and SN lines including but not limited to all relay protection, communication and control equipment within the fence. CEOE shall receive from IID a fixed amount of $800,000 upon the close of financing for construction of the Facility as reimbursement for this scope of work.

The amount and timing required for the letter of credit or other form of security described in ARTICLE 15 of this agreement shall be updated on a quarterly basis and shall be in accordance with the lowest of i) the actual amount spent by IID for supplies and services associated with the Interconnection Facility and ii) the following planned expenses:

Schedule	
	Planned
Financing	$1m
Financing + 3 months	$3m
Financing + 6 months	$6m
Financing + 9 months	$9m
Financing + 12 months	$12m
Financing + 15 months	$15m
Financing + 18 months	$16m
Financing + 21 months	$17m
Financing + 24 months until COD or first sale of Energy	$18m

5.0 Milestones.

These Milestones may be negotiated on a case-by-case basis between IID and CEOE. Should the parties agree to change any dates reflected below they will document the agreement in writing, signed by both parties.

Unless IID agrees to some, or all, alternative milestones that may be proposed by CEOE, in order for CEOE to retain its queue priority, it must provide IID with the following information:

5.1 CEOE Milestones.

1. By (1) month after execution of this Agreement, CEOE shall provide IID with documentation that CEOE has ownership/lease rights/or other arrangements for control of the site on which the Facility is to be constructed.

2. By (1) month after execution of this Agreement, CEOE shall provide IID with proof that CEOE will begin, or has begun, application for all applicable permits and siting requirements needed for completion of the proposed Facilities.

3. By June 1, 2004, or the date CEOE receives financing for construction of the Facility, whichever occurs later, CEOE shall provide IID with documentation that it has placed orders with vendors for the major equipment components that will enable it to complete construction of its Facility in time to begin

commercial operation of the planned generating unit(s) as specified in Appendix B.

4. By June 1, 2004, or the date CEOE receives financing for construction of the Facility, whichever occurs later , CEOE shall provide IID with documentation that it has secured or been granted all the requisite permits and siting approvals required for construction of the Facility. If such permits/siting approvals have not yet been obtained, CEOE shall provide documentation that the prospect of it gaining such approvals will be forthcoming within 45 days of the execution of this Agreement. CEOE shall immediately provide IID with copies of such permit/siting approvals upon receipt of such approvals.

5. By October 1, 2004, CEOE shall provide IID with proof of financing for construction of the Facility. It is understood that CEOE shall target a date of June 1, 2004 for financing of the construction of the Facility.

6. By October 1, 2004 CEOE shall provide IID with documentation of vendors estimated delivery dates of major components of the Facility: the steam turbine generator set, the condenser, the cooling towers, the main step-up transformer, the clarifiers, the standard pressure crystallizers, the low pressure crystallizers and the high pressure separators.

7. CEOE shall inform IID of the date of receipt of each major component listed above.

8. CEOE shall provide IID Proof of Insurance pursuant to Article 18 of the Agreement.

9. CEOE will pay IID on the completion date for the construction of IID's SB line, the monthly interest on 11.9 million dollars at 6% for every month (up to 5 months) earlier than March 1, 2006 that IID completes construction of the interconnection facilities.

10. CEOE will pay IID the costs of the system upgrades identified in Section 9.4, upon receipt of financing. The Parties recognize that $4,047,000 is

an estimate and CEOE will be responsible to pay either the $4,047,000 or the actual costs whichever is less.

5.2 IID Milestones.

1. By one month after the route has been agreed upon by the Parties, if the interconnection will be to the L Line, IID shall provide proof it has begun application for all siting and permits required to build such Interconnection Facilities. If CEOE is forced to build the interconnection on a different route, CEOE shall provide proof that it has begun an application for all siting and permits required.

2. By June 1, 2004, or the date CEOE receives financing for the construction of the Facility, whichever is later, IID shall provide CEOE with detailed plans for the Interconnection Facilities and estimated costs.

3. By June 1, 2004, or the date CEOE receives financing for construction of the Facility, whichever occurs later, IID shall provide CEOE with a schedule (timeline) showing all details for completion of the Interconnection Facilities including: siting/permit approvals; acquisition of necessary land and rights-of-way; ordering/delivery of major components: steel poles, step down transformer, 161kV breakers, 161 kV Switches, and steel structures; and construction schedule.

4. By June 1, 2004, or three months after the date CEOE receives financing for construction of the Facility, whichever occurs later, documentation that IID has secured all necessary permits/siting approvals; acquisition of land or necessary rights-of-way; and acquisition of capital needed to finance construction of the Interconnection Facilities.

5. By June 1, 2004, or the date CEOE receives financing for construction of the Facility, whichever occurs later ID shall provide CEOE with documentation that it has placed orders with vendors for the major components listed in Item 3 above that will enable it

to complete construction of the Interconnection Facilities by the planned completion date.

6. By August 1, 2004, or 2 months after the date CEOE receives financing for construction of the Facility, whichever occurs later IID shall provide CEOE with documentation of vendors estimated delivery dates of the major components detailed in Item 3 above.

7. IID shall provide CEOE with the dates of receipt of each major component listed in Item 3 above.

8. IID shall provide the relay protection scheme and communication requirements discussed in this Appendix by one month after CEOE provides IID with proof of financing for construction of the Facility.

9. It is understood that IID shall target a date of October 1, 2005 to complete and energize the SB line connecting the Interconnection Facilities. This date is 16 months from the date CEOE is expected to receive financing. If CEOE receives financing later than June 1, 2004, IID will target completion of the SB line, within 16 months from the date CEOE receives financing.

10. IID shall complete SN line connecting the interconnection facilities and will notify CEOE of the planned interconnection date 30 days prior to completing the SB line.

APPENDIX B
DESCRIPTION OF CEOE's GENERATION FACILITY

1.0 Location: The Project is located in Imperial County, California. Figure 3.1-1 of the Application for Certification provided in this Appendix B shows the Project regionally.

2.0 Type of Generation Units: Geothermal

3.0 No. of Units: 1 (one)

4.0 Rated Capacity of Each Unit at the Facility:
Net output rating of about 185 (one hundred and eighty-five) MW.

5.0 Expected Commercial Operation Date of Each Unit:
June 1, 2006, subject to periodic updates by CEOE.

6.0 Site Diagram of CEOE's Facility:
Drawing 22-024-GA-002 ver G provided in Appendix B shows the general arrangement of the Project, and may be amended from time to time by CEOE.

APPENDIX C
METERING EQUIPMENT

This Appendix C is a part of the Interconnection Agreement between CEOE and IID.

The metering facilities are to be located as depicted in drawing E1-14, attached to Appendix B.

Subject to the provisions of Article 10 of this Agreement, IID, at CEOE's expense, will own, operate, and maintain metering instrumentation as required for on site metering and telemetering as follows: revenue grade metering (170 kV maximum system voltage, 161 kV nominal system voltage, 750 kVp BIL, 325 kV PFWV) capable of measuring kilowatts, kilowatt-hours, kilovars and kilovar-hours, current transformers (800:5 A ratio, 0.15B1.8 accuracy/burden, 2.0 rating factor, 60 kA/1 second thermal current, 60 kA mechanical current) and capacitive voltage transformers (161,000 grounded Y/92,000 volts primary, 800/1,400:1:1 ratio, 0.15 WXYZ accuracy/burden, 7,500 VA thermal burden).

Subject to the provisions of Article 10 of this Agreement, CEOE will pay for the construction, operation, and maintenance of metering instrumentation as required for metering the generation output and telemetering to a location specified by IID as follows: IID's Control Center.

Subject to the provisions of Article 10 of this Agreement, CEOE and IID hereby acknowledge and agree that the cost listed below is only an estimate and that CEOE hereby agrees to and shall reimburse IID for all actual costs, including any applicable taxes associated with IID's construction of Metering Equipment, or IID's acquisition of any Metering Equipment provided to IID by CEOE as set forth in this Appendix C. The cost for the Metering Equipment is estimated to be $16,000.

Subject to the provisions of Article 10 of this Agreement, CEOE hereby agrees to and CEOE shall provide reasonable and adequate security, as determined within IID's sole reasonable discretion, for payment and performance of obligations set forth in this Appendix C.

APPENDIX D
ADDITIONAL INSURED ENDORSEMENT

CEOE shall furnish to IID an Additional Insured Endorsement with respect to such insurance in substantially the following form:

> "In consideration of the premium charged, IID and its affiliated and associated companies are named as additional insureds with respect to liabilities arising out of CEOE's use and ownership of the Facilities."
>
> "The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy will apply as though separate policies had been issued to each insured. The inclusion of more than one insured will not, however, operate to increase the limits of the carrier's liability. IID will not, by reason of its inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy."

IID shall furnish to CEOE an Additional Insured Endorsement with espect to such insurance in substantially the following form:

> "In consideration of the premium charged, CEOE and its affiliated and associated companies are named as additional insureds with respect to liabilities arising out of IID's use and ownership of the Interconnection and Transmission Facilities."
>
> "The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy will apply as though separate policies had been issued to each insured. The inclusion of more than one insured will not, however, operate to increase the limits of the carrier's liability. IID will not, by reason of its inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy."

APPENDIX E
JOINT USE FACILITIES

This Appendix E is a part of the Interconnection Agreement between CEOE and IID.

CEOE shall make available, at no cost to IID, an area not to exceed 10' by 20' located within CEOE's electronic room for IID's use solely associated with communication and related to the interconnection of the Facility with the Transmission System.

IID shall install and make available, at no cost to CEOE, the necessary (2 fiber pairs) support and fiber optic communication systems located on a section of the Transmission System from the Facility up to the intersection of Crummer Road, for CEOE's use associated with, but not limited to, communication between the Facility and existing facilities owned and operated by CEOE and or its Affiliates.

In addition, certain metering and protective relaying equipment may be shared by and between CEOE and IID in accordance with drawing No. E1-14 and E1-15, which drawings are attached hereto and made a part hereof.

APPENDIX F
OPERATION DATE

[Date]

[CE Obsidian Energy, LLC]
[Address]
[Address]
[Address]

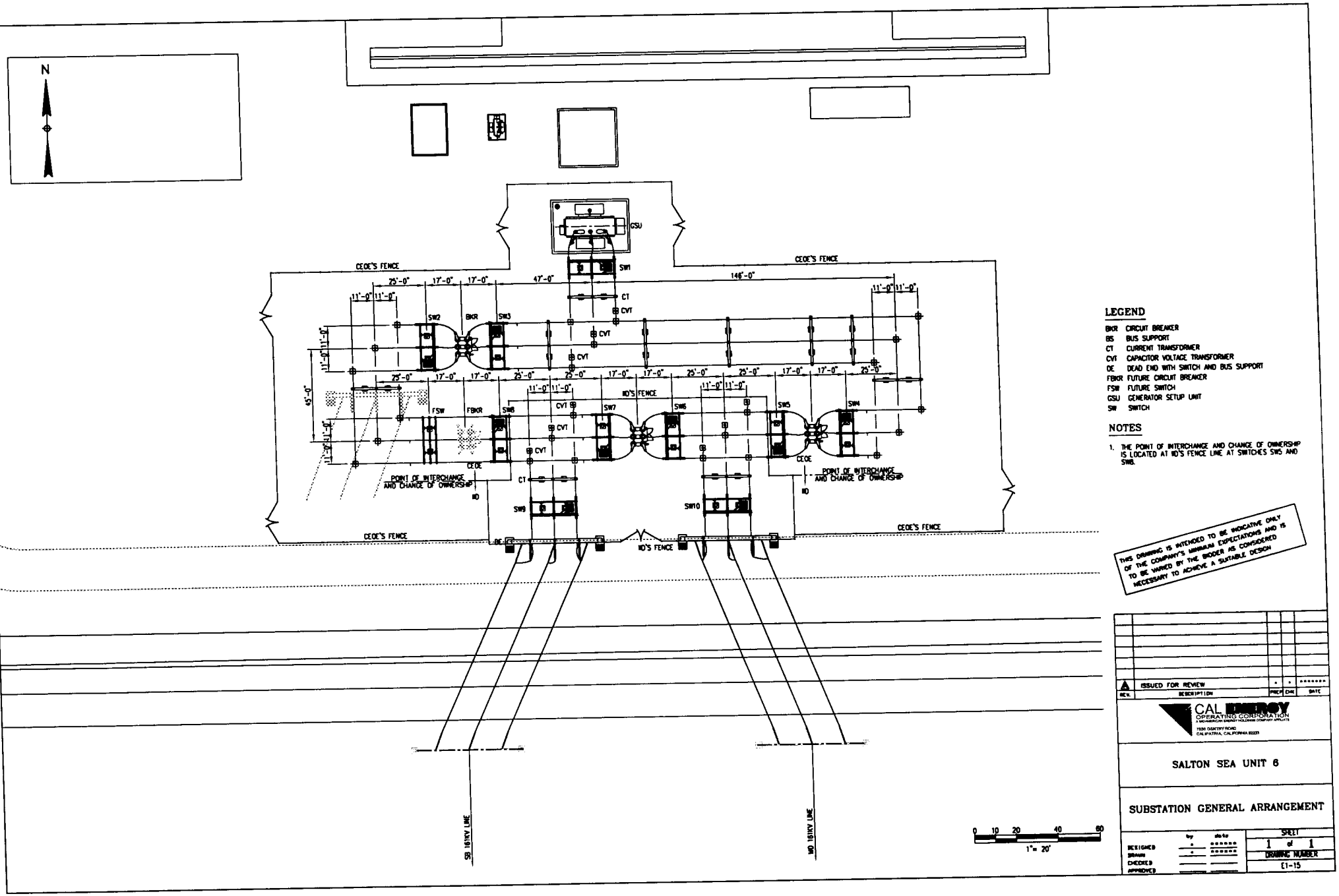
Re: Salton Sea Unit 6

Dear _____:

On [Date], Imperial Irrigation District ("IID") and CE Obsidian Energy, LLC ("CEOE") completed to their mutual satisfaction their respective work as set out in Appendix A and have energized the Facility in parallel operation with the IID's Transmission System. This letter confirms that the Facility may commence testing and/or commercial operation of the Facility and associated interconnection facilities effective as of [Date].

Sincerely,

[Signature]
[IID Representative]



LEGEND

BKR	CIRCUIT BREAKER
BS	BUS SUPPORT
CT	CURRENT TRANSFORMER
CVT	CAPACITOR VOLTAGE TRANSFORMER
DE	DEAD END WITH SWITCH AND BUS SUPPORT
FBKR	FUTURE CIRCUIT BREAKER
FSW	FUTURE SWITCH
GSU	GENERATOR SETUP UNIT
SW	SWITCH

NOTES

1. THE POINT OF INTERCHANGE AND CHANGE OF OWNERSHIP IS LOCATED AT ID'S FENCE LINE AT SWITCHES SW5 AND SW6.

THIS DRAWING IS INTENDED TO BE INDICATIVE ONLY OF THE COMPANY'S MINIMUM EXPECTATIONS AND IS TO BE VARIED BY THE BIDDER AS CONSIDERED NECESSARY TO ACHIEVE A SUITABLE DESIGN

REV.	DESCRIPTION	PREP.	CHK.	DATE
A	ISSUED FOR REVIEW	.	.	.....

0 10 20 40 60
1"= 20'

CAL ENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE
7030 GANTRY ROAD
CALIPATRIA, CALIFORNIA 92233

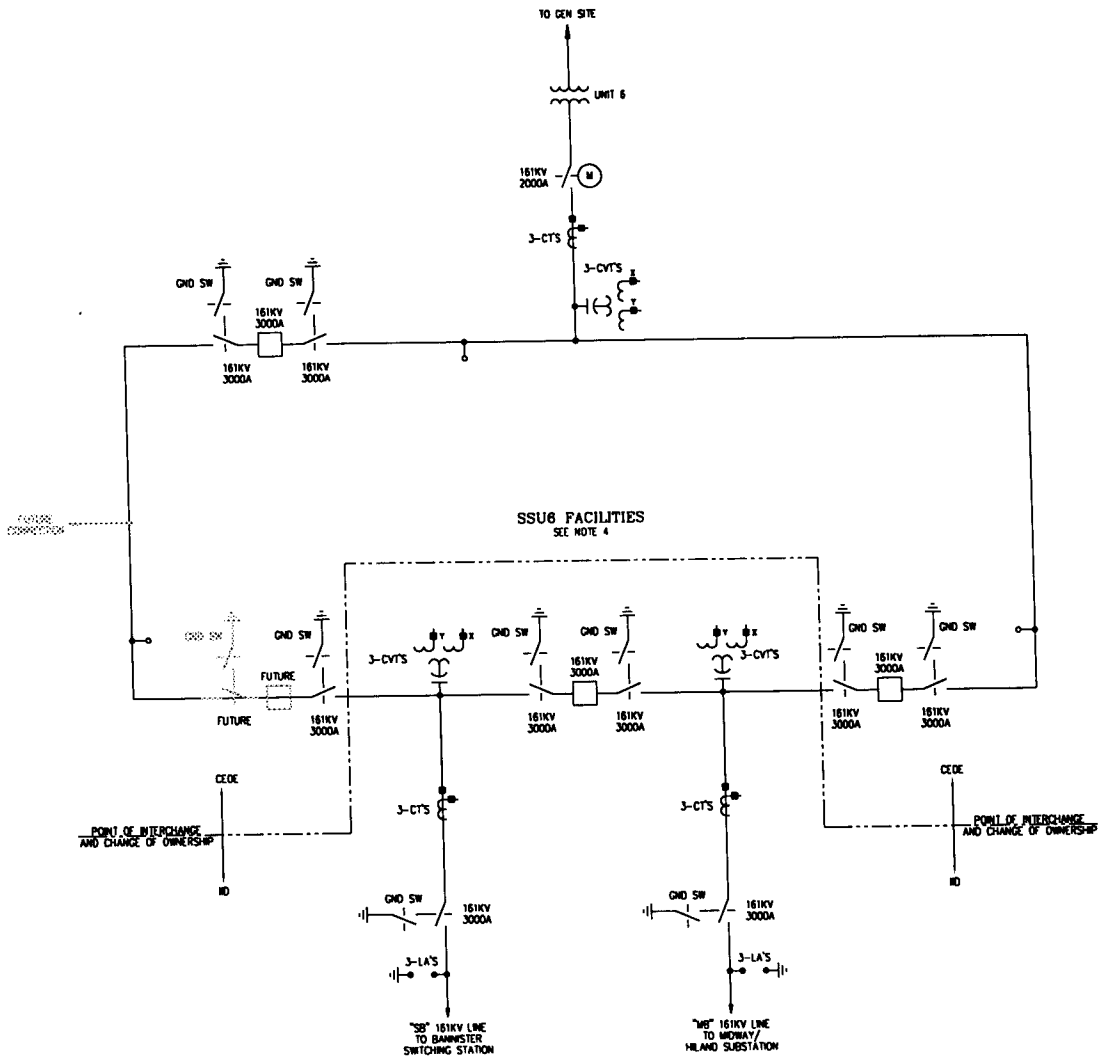
SALTON SEA UNIT 6

SUBSTATION GENERAL ARRANGEMENT

	by	date
DESIGNED	.	.....
DRAWN	.	.....
CHECKED	____	____
APPROVED	____	____

SHEET 1 of 1

DRAWING NUMBER E1-15



LEGEND

- GENERATOR SETUP TRANSFORMER
- POWER CIRCUIT BREAKER
- DISCONNECT SWITCH
- MOTOR OPERATOR
- SURGE ARRESTER
- GROUNDING SWITCH
- CURRENT TRANSFORMER
- CAPACITIVE VOLTAGE TRANSFORMER
- GROUNDING STUD (WELDED TO RIGID BUS)

NOTES

1. CLEARENCES AND SWITCHING OPERATION OF 161KV BREAKERS AND SWITCHES AT SSU6 FACILITIES SHALL BE COORDINATED WITH ID OPERATERS AT SYSTEM CONTROL CENTER (SOC).
2. ID OPERATERS SHALL HAVE THE AUTHORITY TO REQUEST SWITCHING ACTIONS OVER 161KV BREAKERS AT SSU6 FACILITIES.
3. ID SHALL HAVE VISIBILITY OF THE SSU6 161KV FACILITIES (BREAKER STATUS AND METERING.)
4. SSU6 FACILITES AS DEPICTED FOR ILUSTATION PURPOSE ONLY.

THIS DRAWING IS INTENDED TO BE INDICATIVE ONLY OF THE COMPANY'S MINIMUM EXPECTATIONS AND IS TO BE MARKED BY THE BIDDER AS CONSIDERED NECESSARY TO ACHIEVE A SUITABLE DESIGN

REV.	DESCRIPTION	PREP	CHK	DATE
1	ISSUED FOR REVIEW	*	*	*******

CAL ENERGY OPERATING CORPORATION
A MIDAMERICAN ENERGY HOLDINGS COMPANY AFFILIATE
1030 GENTRY ROAD
CALIPATRIA, CALIFORNIA 92233

SALTON SEA UNIT 6

SUBSTATION ONELINE

	by	date
DESIGNED	*	******
DRAWN	*	******
CHECKED		
APPROVED		

SHEET 1 of 1

DRAWING NUMBER E1-14

Appendix 2
Air Quality Detailed Calculations

TABLE G-1R CONSTRUCTION FUGITIVE DUST - EROSION

MONTH	POWER PLANT (acres)	LAYDOWN AREA (acres)	PARK AREA (acres)	ACCESS ROAD (acres)	WELL PADS (acres)	WELLPAD ACCESS (acres)	PIPELINE ROUTE (acres)	TL ROUTE (acres)	DISTRUBED AREA (acres)	UNCONTROLLED EMISSIONS (tons/month)	CONTROLLED EMISSIONS (lbs/month)	CONTROLLED EMISSIONS (tons/year)
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	4.3	3.0	---	---	---	---	7.3	0.08	32.1	---
4	---	---	4.3	3.0	---	---	---	---	7.3	0.08	32.1	---
5	---	20.9	4.3	3.0	---	---	---	---	28.2	0.31	124.1	---
6	98.5	20.9	4.3	3.0	---	---	7.7	---	134.4	1.48	591.4	---
7	98.5	20.9	4.3	3.0	---	---	7.7	---	134.4	1.48	591.4	---
8	98.5	20.9	4.3	3.0	---	---	7.7	---	134.4	1.48	591.4	---
9	98.5	20.9	4.3	3.0	4.8	---	7.7	---	139.2	1.53	612.6	---
10	98.5	20.9	4.3	3.0	9.6	0.8	7.7	---	144.8	1.59	637.1	---
11	98.5	20.9	4.3	3.0	9.6	0.8	7.7	---	144.8	1.59	637.1	---
12	98.5	20.9	4.3	3.0	9.6	2.3	7.7	---	146.3	1.61	643.8	2.25
13	98.5	20.9	4.3	3.0	9.6	2.3	7.7	---	146.3	1.61	643.8	2.57
14	98.5	20.9	4.3	3.0	9.6	1.5	7.7	---	145.6	1.60	640.5	2.89
15	98.5	20.9	4.3	3.0	14.5	2.6	7.7	---	151.5	1.67	666.5	3.21
16	98.5	20.9	4.3	3.0	14.5	3.3	7.7	---	152.2	1.67	669.9	3.52
17	98.5	20.9	4.3	3.0	14.5	3.3	7.7	---	152.2	1.67	669.9	3.80
18	98.5	20.9	4.3	3.0	14.5	3.3	7.7	92.0	244.2	2.69	1074.7	4.04
19	98.5	20.9	4.3	3.0	14.5	5.3	7.7	65.6	219.8	2.42	967.1	4.23
20	98.5	20.9	4.3	3.0	14.5	7.6	7.7	45.9	202.4	2.23	890.5	4.38
21	98.5	20.9	4.3	3.0	14.5	4.6	7.7	58.5	212.0	2.33	932.6	4.54
22	98.5	20.9	4.3	3.0	14.5	1.5	7.7	49.6	200.0	2.20	880.1	4.66
23	98.5	20.9	4.3	3.0	*14.5*	*3.3*	3.9	51.7	200.1	2.20	880.4	4.78
24	98.5	20.9	4.3	3.0	*9.6*	*1.5*	3.9	42.9	184.6	2.03	812.2	4.86
25	98.5	20.9	4.3	3.0	4.8	---	3.9	34.9	170.3	1.87	749.4	4.92
26	---	20.9	4.3	3.0	4.8	---	3.9	8.0	44.9	0.49	197.6	4.70

Notes:

Uncontrolled emission factor from MRI, 1996 0.011 tons PM10/ acre-month

80% control efficiency per AP-42 page 13.2.2-11

Plant site expanded to 98.5 from 78.6 acres, well pad acres in months 23 and 24.

TABLE G-1.1R CONSTRUCTION WORKER TRAVEL FUGITIVE DUST

Month	Number of Workers	Paved Distance miles	Emission Factor (lb/vmt)	Paved Emissions (lb/day)	Unpaved Distance (miles)	Emission Factor (lb/vmt)	Unpaved Emissions (lb/day)	Total Emissions (lb/day)	Controlled Total (lb/day)	Total Emissions (lb/month)	Controlled Total (tons/year)
1	16	0.5	0.0009	0.007	1.73	0.3222	8.9	8.9	1.8	35.8	---
2	24	0.5	0.0009	0.011	1.73	0.3222	13.4	13.4	2.7	53.7	---
3	33	0.5	0.0009	0.015	1.73	0.3222	18.4	18.4	3.7	73.9	---
4	36	0.5	0.0009	0.016	1.73	0.3222	20.1	20.1	4.0	80.6	---
5	45	0.5	0.0009	0.020	1.73	0.3222	25.1	25.1	5.0	100.8	---
6	98	0.5	0.0009	0.044	1.73	0.3222	54.6	54.7	11.0	219.4	---
7	115	0.5	0.0009	0.052	1.73	0.3222	64.1	64.2	12.9	257.5	---
8	134	0.5	0.0009	0.060	1.73	0.3222	74.7	74.8	15.0	300.0	---
9	282	0.5	0.0009	0.127	1.73	0.3222	157.2	157.3	31.6	631.4	---
10	365	0.5	0.0009	0.164	1.73	0.3222	203.5	203.6	40.9	817.2	---
11	399	0.5	0.0009	0.180	1.73	0.3222	222.4	222.6	44.7	893.3	---
12	409	0.5	0.0009	0.184	1.73	0.3222	228.0	228.2	45.8	915.7	2.190
13	381	0.5	0.0009	0.172	1.73	0.3222	212.4	212.6	42.7	853.0	2.598
14	424	0.5	0.0009	0.191	1.73	0.3222	236.4	236.6	47.5	949.3	3.046
15	480	0.5	0.0009	0.216	1.73	0.3222	267.6	267.8	53.7	1074.7	3.547
16	510	0.5	0.0009	0.230	1.73	0.3222	284.3	284.5	57.1	1141.9	4.077
17	507	0.5	0.0009	0.228	1.73	0.3222	282.6	282.9	56.8	1135.1	4.594
18	509	0.5	0.0009	0.229	1.73	0.3222	283.8	284.0	57.0	1139.6	5.054
19	553	0.5	0.0009	0.249	1.73	0.3222	308.3	308.5	61.9	1238.1	5.545
20	545	0.5	0.0009	0.245	1.73	0.3222	303.8	304.1	61.0	1220.2	6.005
21	546	0.5	0.0009	0.246	1.73	0.3222	304.4	304.6	61.1	1222.5	6.300
22	*467*	0.5	0.0009	0.210	1.73	0.3222	260.3	260.6	52.3	1045.6	6.415
23	*404*	0.5	0.0009	0.182	1.73	0.3222	225.2	225.4	45.2	904.5	6.420
24	*242*	0.5	0.0009	0.109	1.73	0.3222	134.9	135.0	27.1	541.8	6.233
25	147	0.5	0.0009	0.066	1.73	0.3222	82.0	82.0	16.5	329.1	5.971
26	61	0.5	0.0009	0.027	1.73	0.3222	34.0	34.0	6.8	136.6	5.565

Note:

Refer to Table G-3.10 for Staffing Schedule and Construction Work Force. Additional workers added in months 22-24.

TABLE G-1.1R CONSTRUCTION WORKER TRAVEL FUGITIVE DUST (Continued)

Notes:

Paved roads: AP-42 Section 13.2.1 10/01 Draft

E = k(sL/2)^0.65*(W/3)^1.5

k = particle size constant =	**0.016**	**lb/VMT - PM10**
sL = silt loading =	**0.04**	**g/m2 (AP-42, page 13.2.1-7, low ADT access roads)**
W = auto/pickup truck avg. vehicle weight =	**2.4**	**tons (CARB Area Source Manual, 9/97)**
E = auto/pick truck emission factor =	**0.0009**	**lb/VMT - PM10**

Unpaved roads: AP-42 Section 13.2.2 10/01 Draft
Public road
E = (k)[(s/12)^0.8]*[(S/30)]/[(M/0.5)^0.2]

k = particle size constant =	**1.8**	**lb/VMT - PM10**
s = silt fraction % =	**11**	**AP-42, TABLE 13.2.2-1, mean for dirt roads, percent**
S = speed =	**10**	**mph work limit**
M = moisture level % =	**7.9**	**Mean moisture for overburden AP-42 Table 11.9-3**
E = auto/pick truck emission factor =	**0.3222**	**lb/VMT - PM10**

Control efficiency of 80% estimated for unpaved roads, page 13.2.2-11, AP-42

TABLE G-1.2R CONSTRUCTION DELIVERY TRUCK FUGITIVE DUST

Month	Number of Trucks per Month	Number of Trucks per Day	Paved Distance miles	Emission Factor (lb/vmt)	Paved Emissions (lb/day)	Unpaved Distance (miles)	Emission Factor (lb/vmt)	Unpaved Emissions (lb/day)	Total Emissions (lb/day)	Controlled Total (lb/day)	Controlled Total (lb/month)	Controlled Total (tons/year)
1	0	0.0	0.5	0.0193	0.000	2.12	0.3222	0.0	0.0	0.0	0.0	---
2	0	0.0	0.5	0.0193	0.000	2.12	0.3222	0.0	0.0	0.0	0.0	---
3	0	0.0	0.5	0.0193	0.000	2.12	0.3222	0.0	0.0	0.0	0.0	---
4	0	0.0	0.5	0.0193	0.000	2.12	0.3222	0.0	0.0	0.0	0.0	---
5	0	0.0	0.5	0.0193	0.000	2.12	0.3222	0.0	0.0	0.0	0.0	---
6	25	1.3	0.5	0.0193	0.012	2.12	0.3222	0.9	0.9	0.2	3.7	---
7	60	3.0	0.5	0.0193	0.029	2.12	0.3222	2.0	2.1	0.4	8.8	---
8	55	2.8	0.5	0.0193	0.026	2.12	0.3222	1.9	1.9	0.4	8.0	---
9	203	10.2	0.5	0.0193	0.098	2.12	0.3222	6.9	7.0	1.5	29.7	---
10	423	21.2	0.5	0.0193	0.204	2.12	0.3222	14.4	14.7	3.1	61.9	---
11	596	29.8	0.5	0.0193	0.287	2.12	0.3222	20.4	20.6	4.4	87.2	---
12	715	35.8	0.5	0.0193	0.344	2.12	0.3222	24.4	24.8	5.2	104.6	0.1519
13	531	26.6	0.5	0.0193	0.256	2.12	0.3222	18.1	18.4	3.9	77.7	0.1907
14	484	24.2	0.5	0.0193	0.233	2.12	0.3222	16.5	16.8	3.5	70.8	0.2261
15	567	28.4	0.5	0.0193	0.273	2.12	0.3222	19.4	19.6	4.1	82.9	0.2676
16	568	28.4	0.5	0.0193	0.274	2.12	0.3222	19.4	19.7	4.2	83.1	0.3091
17	555	27.8	0.5	0.0193	0.267	2.12	0.3222	19.0	19.2	4.1	81.2	0.3497
18	514	25.7	0.5	0.0193	0.248	2.12	0.3222	17.6	17.8	3.8	75.2	0.3855
19	447	22.4	0.5	0.0193	0.215	2.12	0.3222	15.3	15.5	3.3	65.4	0.4138
20	453	22.7	0.5	0.0193	0.218	2.12	0.3222	15.5	15.7	3.3	66.3	0.4429
21	445	22.3	0.5	0.0193	0.214	2.12	0.3222	15.2	15.4	3.3	65.1	0.4606
22	*358*	17.9	0.5	0.0193	0.172	2.12	0.3222	12.2	12.4	2.6	52.4	0.4558
23	*340*	17.0	0.5	0.0193	0.164	2.12	0.3222	11.6	11.8	2.5	49.7	0.4371
24	*238*	11.9	0.5	0.0193	0.115	2.12	0.3222	8.1	8.2	1.7	34.8	0.4022
25	112	5.6	0.5	0.0193	0.054	2.12	0.3222	3.8	3.9	0.8	16.4	0.3716
26	112	5.6	0.5	0.0193	0.054	2.12	0.3222	3.8	3.9	0.8	16.4	0.3444

Note:

Refer to Table G-3.11 for Truck Deliveries of Equipment / Materials

Additional trucks added in months 22-24.

TABLE G-1.2R CONSTRUCTION DELIVERY TRUCK FUGITIVE DUST (Continued)

Notes:

Paved roads: AP-42 Section 13.2.1 10/01 draft

E = k(sL/2)^0.65*(W/3)^1.5

k = particle size constant =	**0.016**	**lb/VMT - PM10**
sL = silt loading =	**0.04**	**g/m2 (AP-42, page 13.2.1-7, low ADT access roads)**
W = delivery truck avg. vehicle weight =	**18.5**	**tons (max 27.5 tons; empty 9.5 tons)**
E = delivery truck emission factor =	**0.0193**	**lb/VMT - PM10**

Unpaved roads: AP-42 Section 13.2.2.2 10/01
Public road (equation 1b)
E = (k)[(s/12)^0.8]*[(S/30)]/[(M/0.5)^0.2]

k = particle size constant =	**1.8**	**lb/VMT - PM10**
s = silt fraction % =	**11**	**AP-42, TABLE 13.2.2-1, mean for dirt roads**
S = speed =	**10**	**mph work limit**
W = moisture level % =	**7.9**	**Mean moisture for overburden AP-42 Table 11.9-3**
E = delivery truck emission factor =	**0.3222**	**lb/VMT - PM10**

Control efficiency of 80% estimated for unpaved roads, page 13.2.2-11, AP-42

TABLE G-1.3R CONSTRUCTION EQUIPMENT FUGITIVE DUST

Construction Equipment	Emission Source	Usage	Emission Factor	Emission Factor Units	Units per day	Uncontrolled Emission Rate (lb/day)	Controlled Emission Rate* (lb/month)
Car-Sedan	Paved roads		0.0009	lb/vmt	2	0.0018	0.0
	Unpaved roads		0.3222	lb/vmt	9.5	3.0613	12.2
Pickup Truck	Paved roads		0.0009	lb/vmt	2	0.0018	0.0
	Unpaved roads		0.3222	lb/vmt	9.5	3.0613	12.2
Flatbed Truck	Paved roads		0.0193	lb/vmt	0.5	0.0096	0.2
	Unpaved roads		0.3222	lb/vmt	2	0.6445	2.6
Dump Truck	Paved roads		0.0193	lb/vmt	0.5	0.0096	0.2
	Unpaved roads		0.3222	lb/vmt	2	0.6445	2.6
	Unloading		0.1055	lbs/day	1	0.1055	2.1
Concrete Pump	Paved roads		0.0321	lb/vmt	0.5	0.0161	0.3
	Unpaved roads		3.6653	lb/vmt	2	7.3307	29.3
Fuel Truck	Paved roads		0.0193	lb/vmt	0.5	0.0096	0.2
	Unpaved roads		0.3222	lb/vmt	2	0.6445	2.6
Water Truck	Paved roads		0.0087	lb/vmt	4	0.0349	0.7
	Unpaved roads		0.3222	lb/vmt	16	5.1560	20.6
Forklift	Unpaved roads		2.1566	lb/vmt	1.0	2.1566	8.6
Grader	Earth moving		0.2754	lb/vmt	2	0.5508	2.2
Dozer	Earth moving	70%	12.1217	lbs/day	70%	8.4852	33.9
Trencher	Unpaved roads		2.1566	lb/vmt	0.5	1.0783	4.3
	Earth moving	75%	0.7604	lbs/day	75%	0.5703	2.3
Loader	Unpaved roads		2.1566	lb/vmt	0.5	1.0783	4.3
	Earth moving	80%	0.7604	lbs/day	80%	0.6084	2.4
Paving	Unpaved roads		2.7246	lb/vmt	0.5	1.3623	5.4
Vib Roller	Unpaved roads		2.1566	lb/vmt	0.5	1.0783	4.3
Compactor	Unpaved roads		2.1566	lb/vmt	0.5	1.0783	4.3
Crane-230T	Unpaved roads		4.4494	lb/vmt	0.5	2.2247	8.9
Crane-140T	Unpaved roads		4.4494	lb/vmt	0.5	2.2247	8.9
Crane-60T	Unpaved roads		4.2434	lb/vmt	0.5	2.1217	8.5
Crane-45T	Unpaved roads		4.2434	lb/vmt	0.5	2.1217	8.5
Compressors	Unpaved roads		0.3222	lb/vmt	0.5	0.1611	0.6
Manlifts	Unpaved roads		0.3222	lb/vmt	0.5	0.1611	0.6
Welders	Unpaved roads		0.3222	lb/vmt	0.5	0.1611	0.6
Pile Forklift	Unpaved roads		2.1566	lb/vmt	0.5	1.0783	4.3
Pile Crane	Unpaved roads		4.4494	lb/vmt	0.5	2.2247	8.9
Pile Drill	Unpaved roads		4.4494	lb/vmt	0.5	2.2247	8.9

Notes: **Pile equipment added**

Paved roads: AP-42 Section 13.2.1 10/01 draft

E = k(sL/2)^0.65*(W/3)^1.5

k = particle size constant =	**0.016**	**lb/VMT - PM10**
sL = silt loading =	**0.04**	**g/m2 (AP-42, page 13.2.1-7, low ADT access roads)**
W = concrete pump avg. vehicle weight =	**26**	**tons (40 tons max; 12 tons empty) estimated**
E = concrete pump emission factor =	**0.0321**	**lb/VMT - PM10**
W = water truck avg. vehicle weight =	**10.9**	**tons (15 tons full; 6.7 tons empty) estimated**
E = water truck emission rate =	**0.0087**	**lb/VMT - PM10**

TABLE G-1.3 CONSTRUCTION EQUIPMENT FUGITIVE DUST (CONTINUED)

Unpaved roads: AP-42 Section 13.2.2.2 10/01			
On site travel (equation 1b)			
E = (k)[(s/12)^0.9][(W/3)^0.45]			
k = particle size constant =	**1.5**	**lb/VMT - PM10**	
s = silt fraction =	**11**	**(AP-42, Table 13.2.2-1, mean for dirt roads)**	
W = concrete pump avg. vehicle weight =	**26**	**tons (40 tons max; 12 tons empty)**	
E = concrete pump emission factor =	**3.6653**	**lb/VMT - PM10**	
W = forklift/misc avg. vehicle wt =	**8**	**tons estimated (vehicle weight same for trencher, loader, vib roller and compactor).**	
E = forklift/misc emission factor =	**2.1566**	**lb/VMT - PM10**	**(same for trencher, loader, vib roller and compactor).**
W = paver avg. vehicle wt =	**13.45**	**tons (AP-800C- Caterpillar Performance Handbook 10-2000 -estimated)**	
E = paver emission factor =	**2.7246**	**lb/VMT - PM10**	
W = crane 230T/140T. vehicle wt =	**40**	**tons estimated (maximum for highway)**	
E = crane 230T/140T emission factor =	**4.4494**	**lb/VMT - PM10**	
W = crane 60T/45T. vehicle wt =	**36**	**tons estimated**	
E = crane 60T/45T emission factor =	**4.2434**	**lb/VMT - PM10**	
W = misc truck avg. vehicle weight =	**18.5**	**tons (max 27.5 tons; empty 9.5 tons)**	
E = misc truck emission rate =	**3.1449**	**lb/VMT - PM10**	
Truck Unloading: AP-42 Section 3.2.4 1/95			
E = k(0.0032[(U/5)^1.3])/(M/2)^1.4)			
k = particle size constant =	**0.35**	**PM10**	
U = mean wind speed =	**6.6**	**mph annual mean wind speed at Imperial County Airport**	
M = moisture =	**7.9**	**(AP-42, Table 11.9-3, mean for overburden)**	
E = emission factor =	**0.00023**	**lb/ton processed**	
Process rate	**449.28**	**tons/day (52yd3/hr*1.35 tons/yd3*6.4 hours/day)**	
PM10 emissions per day	**0.105**	**lbs/day**	
Grading: AP-42 Section 11.9 7/98			
E = (.051[(S)^2.0])(.60)			
S = mean vehicle speed (mph) =	**3**	**mph from Caterpillar Performance Handbook 10-2000**	
E = grading emission factor =	**0.275**	**lb/VMT - PM10**	
Bulldozing: AP-42 Section 11.9 7/98			
E = ((1[(s)^1.5])/(M^1.4))(.75)	**Overburden**		
s = silt fraction =	**11**	**(AP-42, Table 13.2.2-1, mean for dirt roads)**	
M = moisture =	**7.9**	**(AP-42, Table 11.9-3, mean for overburden)**	
E = bulldozing emission factor =	**1.515**	**lb/hr - PM10**	
PM10 emissions per day	**12.122**	**lbs/day**	
Trenching/Loading: AP-42 Section 11.9 7/98			
E = ((0.0021[(D)^0.7])/(M^0.3))(.75)	**Dragline Overburden**		
D = drop height =	**3.0**	**feet-estimated**	
M = moisture =	**7.9**	**(AP-42, Table 11.9-3, mean for overburden)**	
E = emission factor =	**0.002**	**lb/yd3 - PM10**	
Trenching rate	**52**	**yd3/hr (307B- Caterpillar Performance Handbook 10-2000 - estimated)**	
PM10 emissions per day	**0.760**	**lbs/day**	

*** All with a control efficiency of 80% estimated except paved roads, page 13.2.2-11, AP-42**

Refer to Tables G-1.1 and G-1.2 for support of emission factors not listed above

Table G-1.4R Construction Equipment Monthly Summary

Construction Equipment	Average Hours Per Day	Average Units On Site Per Month																			
		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pickup truck		7	7	8	8	9	9	10	12	12	16	17	17	17	14	14	14	12	12	7	6	4
Truck		1	1	1	1	2	2	2	2	2	4	3	3	3	5	5	9	9	6	7	6	4
Dump truck		4	4	4	4	2	1															
Concrete pump							1	1	1	1												
Fuel/lube truck		1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1
Water truck		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Forklift		1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Grader		2	2	2	2	1												1	1			
Dozer	5.6	2	3	3	3	2								1	1			1	3	2	2	
Trencher	6	1	1	1	2	2	2	2	2	2	1	1	1		2	2	2	2	2			
Loader	6.4	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Paver																			2	2		
Vib roller		1	2	3	3	2	2	2	2	2	2	1	1	1	1	1	1					
Compactor					1	1	1	2	2	1	1	1	1	1								
Crane-230T										1	2	2	2	2	1							
Crane-140T							1	1	1	1	1	1	1	1	1	1	1					
Crane-60T		1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1					
Crane-45T			1	1	2	2	2	2	2	3	3	3	3	3	3	4	3	3	2	2		
Air compressors			1	1	1	2	4	5	6	6	6	6	6	8	6	6	4	4	3	2	2	1
Manlifts						1	1	3	7	9	9	9	9	9	8	6	4	2				
Welders		1	1	1	4	6	8	8	8	8	8	8	6	6	4	2	1					
Pile Forklift		1	1	1	1	1	1	1														
Pile Crane		1	1	1	1	1	1	1														
Pile Drill		1	1	1	1	1	1	1														

Notes: **Pile equipment added**

Table G-1.5R Construction Equipment Monthly Fugitive PM_{10} Emissions (lb/month)

Construction Equipment	Average Hours Per Day	Month of Construction																				
		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car		12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Pickup truck		86.0	86.0	98.3	98.3	111	111	123	147	147	197	209	209	209	172	172	172	147	147	86.0	73.7	49.1
Truck		2.8	2.8	2.8	2.8	5.5	5.5	5.5	5.5	5.5	11.1	8.3	8.3	8.3	13.9	13.9	24.9	24.9	16.6	19.4	16.6	11.1
Dump truck		11.1	11.1	11.1	11.1	5.5	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Concrete pump		0.0	0.0	0.0	0.0	0.0	29.6	29.6	29.6	29.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel/lube truck		2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	2.8
Water truck		21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
Forklift		8.6	8.6	8.6	8.6	8.6	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	8.6	8.6	8.6	8.6	8.6
Grader		4.4	4.4	4.4	4.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0	0.0	0.0
Dozer	5.6	67.9	102	102	102	67.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.9	33.9	0.0	0.0	33.9	102	67.9	67.9	0.0
Trencher	6	6.6	6.6	6.6	13.2	13.2	13.2	13.2	13.2	13.2	6.6	6.6	6.6	0.0	13.2	13.2	13.2	13.2	13.2	0.0	0.0	0.0
Loader	6.4	6.7	6.7	13.5	13.5	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	0.0	0.0	0.0
Paver		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	10.9	0.0	0.0
Vib roller		4.3	8.6	12.9	12.9	8.6	8.6	8.6	8.6	8.6	8.6	4.3	4.3	4.3	4.3	4.3	4.3	0.0	0.0	0.0	0.0	0.0
Compactor		0.0	0.0	0.0	4.3	4.3	4.3	8.6	8.6	4.3	4.3	4.3	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane-270T		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	17.8	17.8	17.8	17.8	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane-140T		0.0	0.0	0.0	0.0	0.0	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	0.0	0.0	0.0	0.0	0.0
Crane-60T		8.5	8.5	8.5	8.5	8.5	8.5	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	8.5	8.5	0.0	0.0	0.0	0.0	0.0
Crane-45T		0.0	8.5	8.5	17.0	17.0	17.0	17.0	17.0	25.5	25.5	25.5	25.5	25.5	25.5	33.9	25.5	25.5	17.0	17.0	0.0	0.0
Air compressors		0.0	0.6	0.6	0.6	1.3	2.6	3.2	3.9	3.9	3.9	3.9	3.9	5.2	3.9	3.9	2.6	2.6	1.9	1.3	1.3	0.6
Manlifts		0.0	0.0	0.0	0.0	0.6	0.6	1.9	4.5	5.8	5.8	5.8	5.8	5.8	5.2	3.9	2.6	1.3	0.0	0.0	0.0	0.0
Welders		0.6	0.6	0.6	2.6	3.9	5.2	5.2	5.2	5.2	5.2	5.2	3.9	3.9	2.6	1.3	0.6	0.0	0.0	0.0	0.0	0.0
Pile Forklift		4.3	4.3	4.3	4.3	4.3	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pile Crane		8.9	8.9	8.9	8.9	8.9	8.9	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pile Drill		8.9	8.9	8.9	8.9	8.9	8.9	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL EMISSIONS (lbs/month)		**266**	**313**	**337**	**358**	**323**	**300**	**324**	**330**	**344**	**371**	**377**	**375**	**407**	**372**	**327**	**326**	**305**	**366**	**250**	**207**	**106**

Notes: **Pile equipment added**

Table G-1.6R Fugitive PM_{10} Emissions Monthly Summary

Activity	Fugitive PM10 Emissions Per Month (lb/month)																				
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Construction Equipment	266.0	313.4	336.7	358.1	322.9	299.8	324.1	329.8	344.1	371.4	376.6	375.4	406.8	372.2	326.8	326.2	305.5	365.5	250.2	207.3	105.9
Delivery Trucks	3.7	8.8	8.0	29.7	61.9	87.2	104.6	77.7	70.8	82.9	83.1	81.2	75.2	65.4	66.3	65.1	52.4	49.7	34.8	16.4	16.4
Worker Travel	219.4	257.5	300.0	631.4	817.2	893.3	915.7	853.0	949.3	1075	1142	1135	1140	1238	1220	1222	1045.6	904.5	541.8	329.1	136.6
Erosion	591.4	591.4	591.4	612.6	637.1	637.1	643.8	643.8	640.5	666.5	669.9	669.9	1074.7	967.1	890.5	932.6	880.1	880.4	812.2	749.4	197.6
Total (lbs/month)	**1080**	**1171**	**1236**	**1632**	**1839**	**1917**	**1988**	**1904**	**2005**	**2196**	**2271**	**2262**	**2696**	**2643**	**2504**	**2546**	**2284**	**2200**	**1639.1**	**1302**	**456.5**
Total (tons/year)	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**10.75**	**11.56**	**12.29**	**12.93**	**13.39**	**13.61**	**13.75**	**13.57**	**13.27**	**12.50**

Notes:

SHORT TERM EMISSIONS

MAX MONTHLY 18	lbs/mo	lbs/day	lbs/hr	gm/sec	
Construction Equipment	406.8	20.3	2.5	0.321	8hr/day
Delivery Trucks	75.2	3.8	0.5	0.059	8hr/day
Worker Travel	1139.6	57.0	7.1	0.898	8hr/day
Erosion	1074.7	35.8	1.5	0.188	24hr/day
TOTAL	2696.2	116.9	11.6	1.466	
TOTAL (without erosion)				1.278	

LONG TERM EMISSIONS

MAX ANNUAL MO 12-23	lbs/y	lbs/mo	lbs/day	lbs/hr	gm/sec	
Construction Equipment	4224.4	352.0	17.6	2.2	0.277	8hr/day
Delivery Trucks	874.2	72.9	3.6	0.5	0.057	8hr/day
Worker Travel	12840.4	1070.0	53.5	6.7	0.843	8hr/day
Erosion	9559.7	796.6	26.6	1.1	0.140	24hr/day
TOTAL	27499	2291.6	101.3	10.4	1.318	
TOTAL (without erosion)					1.178	
TOTAL (tons/year)	13.75					

TABLE G-2R WELL DRILLING EMISSIONS

Equipment	Fuel	Engine HP	Emission Factor - grams/bhp-hr					Emission Rate - lb/hr				
			NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}
#1	Diesel	450	6.550	0.800	0.090	0.1840	0.270	6.49	0.79	0.09	0.18	0.27
#2	Diesel	450	6.550	0.800	0.090	0.1840	0.270	6.49	0.79	0.09	0.18	0.27
#3	Diesel	450	6.550	0.800	0.090	0.1840	0.270	6.49	0.79	0.09	0.18	0.27
#4	Diesel	450	6.550	0.800	0.090	0.1840	0.270	6.49	0.79	0.09	0.18	0.27
						Total (lb/hr) PEAK		**25.97**	**3.17**	**0.36**	**0.73**	**1.070**
						Total (gm/s) PEAK		**3.28**	**0.4000**	**0.0450**	**0.0920**	**0.135**
						Total (tons/well)		**8.42**	**1.03**	**0.12**	**0.24**	**0.347**
						Total (tons in 1 year)		**138.88**	**16.96**	**1.91**	**3.90**	**5.725**
						Total (lbs/hr in 1 year)		**31.71**	**3.87**	**0.44**	**0.89**	**1.307**
						Total (gm/sec)		**4.00**	**0.4884**	**0.0549**	**0.1123**	**0.165**

Notes:

NO_2,CO,VOC and PM_{10} emission factors based on Caterpillar documented emission data for 3412DITTA Engines, SO_2 based on 0.05% Sulfur fuel

Engine Hp based upon typical drill rig used in the Salton Sea area.

Emissions long term are based upon 1006 days of drilling and average fuel use (100% load equals 2284.8 gal/day -actual highest of three wells is 1012 gal/day or 44.3%.

Days of drilling increased to 1006 from 900 days for well field, increased to 55 from 50 days for well rework

PAD Locations *	East	North	Elevation
PAD I (OB3)	627092	3670738	-205
PAD N (OB1)	628357	3671134	-230
PAD J (OB2)	627897	3670846	-230
PAD C (OB4)	627751	3670183	-228
PAD L (OB5)	628153	3669888	-228
PAD R (OBI2)	630101	3669780	-217
PAD P (OBI3)	630101	3669149	-216
PAD O (OBI1)	629269	3668354	-214
CT Well	628455	3670615	-228
BP Well	627760	3670615	-228

*** Taken from USGS Maps (NAD27, NGVD29)**

Modeling Scenario (each well one point source)

Rig engines have stack heights of 14 feet and 8 inch diameter

One equivalent stack exhaust based on fire pump exhaust volume and temperature

1 hp equals 5.2 cfm (1506 acfm/ 290 hp)

One engine (450 hp) equals 2340 acfm, total rig (1800 hp) equals 9360 acfm

Rig stack velocity is 112 ft/sec with 8 inch diameter, keep same velocity with new diameter

New equivalent diameter is 1.33 feet for entire rig

Use fire pump exhaust temperature of 855 F

Well Rework/New Well Drilling

Emissions	NO_X	CO	VOC	SO_X	PM_{10}
Total (tons/year) *	7.59	0.93	0.10	0.21	0.313

*** Emissions long term are based upon 55 days of drilling and average fuel use**

Table G-3R Construction Equipment Emission Factors

Construction Equipment	Fuel	Vehicle Miles Traveled Per Day	Emission Factors - grams/VMT					Emission Rates - lbs/hr				
			NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}
Car-Sedan	G	11.5	0.97	10.62	1.29	0.1	0.03	0.0246	0.2690	0.0327	0.0025	0.0008
Pickup truck	G	11.5	1.67	19.88	2.08	0.1	0.04	0.0423	0.5036	0.0527	0.0025	0.0010
Dump T	D	2.5	13.08	2.62	0.49	0.16	0.41	0.0720	0.0144	0.0027	0.0009	0.0023
Fuel Truck	D	2.5	13.08	2.62	0.49	0.16	0.41	0.0720	0.0144	0.0027	0.0009	0.0023
Water Truck	D	20	13.08	2.62	0.49	0.16	0.41	0.5762	0.1154	0.0216	0.0070	0.0181
Flatbed truck	D	2.5	13.08	2.62	0.49	0.16	0.41	0.0720	0.0144	0.0027	0.0009	0.0023

Construction Equipment	Fuel	Usage (%)	Engine HP	Load Factor	Emission Factors - lb/hp-hr					Emission Rates - lbs/hr				
					NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}
Concrete Pump	D	30	130	59	0.024	0.010	0.002	0.00040	0.00089	0.55	0.23	0.05	0.01	0.02
Forklift	D	80	83	30	0.031	0.013	0.003	0.00040	0.00089	0.62	0.26	0.06	0.01	0.02
Grader	D	90	157	58	0.021	0.008	0.003	0.00040	0.00089	1.72	0.66	0.25	0.03	0.07
Dozer	D	70	103	59	0.023	0.011	0.002	0.00040	0.00089	0.98	0.47	0.09	0.02	0.04
Trencher	D	75	60	70	0.022	0.020	0.003	0.00040	0.00089	0.69	0.63	0.09	0.01	0.03
Loader	D	80	77	47	0.022	0.015	0.003	0.00040	0.00089	0.64	0.43	0.09	0.01	0.03
Paving	D	85	99	53	0.023	0.007	0.001	0.00040	0.00089	1.03	0.31	0.04	0.02	0.04
Vib Roller	D	60	99	58	0.020	0.007	0.002	0.00040	0.00089	0.69	0.24	0.07	0.01	0.03
Compactor	D	65	99	58	0.020	0.007	0.002	0.00040	0.00089	0.75	0.26	0.07	0.01	0.03
Crane-230T	D	70	450	43	0.023	0.009	0.003	0.00040	0.00089	3.12	1.22	0.41	0.05	0.12
Crane-140T	D	70	270	43	0.023	0.009	0.003	0.00040	0.00089	1.87	0.73	0.24	0.03	0.07
Crane-60T	D	50	175	43	0.023	0.009	0.003	0.00040	0.00089	0.87	0.34	0.11	0.02	0.03
Crane-45T	D	50	150	43	0.023	0.009	0.003	0.00040	0.00089	0.74	0.29	0.10	0.01	0.03
Compressors	D	75	37	48	0.018	0.011	0.002	0.00040	0.00132	0.24	0.15	0.03	0.01	0.02
Manlifts	D	80	43	51	0.031	0.013	0.003	0.00040	0.00132	0.54	0.23	0.05	0.01	0.02
Welders	D	75	35	45	0.018	0.011	0.002	0.00040	0.00132	0.21	0.13	0.02	0.00	0.02
Pile Forklift	D	56	230	30	0.031	0.013	0.003	0.00040	0.00089	1.20	0.50	0.12	0.02	0.03
Pile Crane	D	60	300	43	0.023	0.009	0.003	0.00040	0.00089	1.78	0.70	0.23	0.03	0.07
Pile Drill	D	30	350	75	0.024	0.020	0.003	0.00040	0.00089	1.89	1.58	0.24	0.03	0.07

Notes:

1 Emission factors obtained from EMFAC2000 Version 2.02 default scenario for the Salton Sea Air Basin, Calendar year 2002.
Car-sedan based on Class 1 totals; Pickup trucks based on class 2 totals; and Trucks based on class 7 diesel.

2 Emission factors based on SCAQMD CEQA Handbook Table A9-8-B, SO2 based on .05% sulfur fuel.

3 Load factors based on SCAQMD CEQA Handbook Table A9-8-D.

4 Engine Hp ratings based on SCAQMD CEQA Handbook Table A9-8-C except cranes.

5 Mileage based on estimated on site travel distances.

6 Equipment usage factors based on Design Engineer.

7. Pile equipment added and TIER 1 Standards applied to off-road PM10 emissions.

Table G-3.1R Monthly NO_x Construction Emissions Summary

Construction Equipment	(lb/hr)																				
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car-Sedan	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.000
Pickup	0.296	0.296	0.338	0.338	0.381	0.381	0.423	0.508	0.508	0.677	0.719	0.719	0.719	0.592	0.592	0.592	0.508	0.508	0.296	0.254	0.169
Dump T	0.288	0.288	0.288	0.288	0.144	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Truck	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.144	0.144	0.144	0.144	0.144	0.144	0.144	0.144	0.072
Water Truck	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576	0.576
Flatbed truck	0.072	0.072	0.072	0.072	0.144	0.144	0.144	0.144	0.144	0.288	0.216	0.216	0.216	0.360	0.360	0.648	0.648	0.432	0.504	0.432	0.288
Concrete Pump	0.000	0.000	0.000	0.000	0.000	0.552	0.552	0.552	0.552	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	0.618	0.618	0.618	0.618	0.618	1.235	1.235	1.235	1.235	1.235	1.235	1.235	1.235	1.235	1.235	1.235	0.618	0.618	0.618	0.618	0.618
Grader	3.442	3.442	3.442	3.442	1.721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.721	1.721	0.000	0.000	0.000
Dozer	1.957	2.935	2.935	2.935	1.957	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.978	0.978	0.000	0.000	0.978	2.935	1.957	1.957	0.000
Trencher	0.693	0.693	0.693	1.386	1.386	1.386	1.386	1.386	1.386	0.693	0.693	0.693	0.000	1.386	1.386	1.386	1.386	1.386	0.000	0.000	0.000
Loader	0.637	0.637	1.274	1.274	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.637	0.000	0.000	0.000
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.052	2.052	0.000	0.000
Vib Roller	0.689	1.378	2.067	2.067	1.378	1.378	1.378	1.378	1.378	1.378	0.689	0.689	0.689	0.689	0.689	0.689	0.000	0.000	0.000	0.000	0.000
Compactor	0.000	0.000	0.000	0.746	0.746	0.746	1.493	1.493	0.746	0.746	0.746	0.746	0.746	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-230T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.115	6.231	6.231	6.231	6.231	3.115	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-140T	0.000	0.000	0.000	0.000	0.000	1.869	1.869	1.869	1.869	1.869	1.869	1.869	1.869	1.869	1.869	1.869	0.000	0.000	0.000	0.000	0.000
Crane-60T	0.865	0.865	0.865	0.865	0.865	0.865	1.731	1.731	1.731	1.731	1.731	1.731	1.731	1.731	0.865	0.865	0.000	0.000	0.000	0.000	0.000
Crane-45T	0.000	0.742	0.742	1.484	1.484	1.484	1.484	1.484	2.225	2.225	2.225	2.225	2.225	2.225	2.967	2.225	2.225	1.484	1.484	0.000	0.000
Compressors	0.000	0.240	0.240	0.240	0.480	0.959	1.199	1.439	1.439	1.439	1.439	1.439	1.918	1.439	1.439	0.959	0.959	0.719	0.480	0.480	0.240
Manlifts	0.000	0.000	0.000	0.000	0.544	0.544	1.632	3.807	4.895	4.895	4.895	4.895	4.895	4.351	3.263	2.175	1.088	0.000	0.000	0.000	0.000
Welders	0.213	0.213	0.213	0.851	1.276	1.701	1.701	1.701	1.701	1.701	1.701	1.276	1.276	0.851	0.425	0.213	0.00	0.000	0.000	0.000	0.000
Pile Forklift	1.198	1.198	1.198	1.198	1.198	1.198	1.198	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000
Pile Crane	3.560	3.560	3.560	3.560	3.560	3.560	3.560	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000
Pile Drill	3.780	3.780	3.780	3.780	3.780	3.780	3.780	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.000	0.000	0.000
TOTAL (lb/month)	**3037**	**3461**	**3680**	**4131**	**3675**	**3706**	**4172**	**3206**	**3877**	**4227**	**4112**	**4044**	**4178**	**3553**	**2636**	**2278**	**1842**	**2118**	**1301**	**718**	**314**

Short Term Emissions	
Month (lb/month)	**4227**
Daily (lb/day)	**211**
Hourly (lb/hr)	**26.4**
grams/sec	**3.33**

Long Term Emissions	
Annual (lb/year)	**46560**
Annual (tons/year)	**23.3**
Month (lb/month)	**3880**
Daily (lb/day)	**194**
Hourly (lb/hr)	**24.25**
grams/sec	**3.06**

Yearly Period	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26
Yearly Emissions (lb/yr)	**45327**	**46468**	**46560**	**45516**	**43663**	**41830**	**40241**	**37371**	**34883**	**31319**

Note:

Hourly emission rate based on a 20 work day month and an 8 hour work day.

Table G-3.2R Monthly CO Construction Emissions Summary

Construction Equipment	(lb/hr)																				
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car-Sedan	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.269	0.000
Pickup	3.525	3.525	4.029	4.029	4.532	4.532	5.036	6.043	6.043	8.057	8.561	8.561	8.561	7.050	7.050	7.050	6.043	6.043	3.525	3.021	2.014
Dump T	0.058	0.058	0.058	0.058	0.029	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Truck	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.014
Water Truck	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115	0.115
Flatbed truck	0.014	0.014	0.014	0.014	0.029	0.029	0.029	0.029	0.029	0.058	0.043	0.043	0.043	0.072	0.072	0.130	0.130	0.087	0.101	0.087	0.058
Concrete Pump	0.000	0.000	0.000	0.000	0.000	0.230	0.230	0.230	0.230	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	0.259	0.259	0.259	0.259	0.259	0.518	0.518	0.518	0.518	0.518	0.518	0.518	0.518	0.518	0.518	0.518	0.259	0.259	0.259	0.259	0.259
Grader	1.311	1.311	1.311	1.311	0.656	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.656	0.656	0.000	0.000	0.000
Dozer	0.936	1.404	1.404	1.404	0.936	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.468	0.468	0.000	0.000	0.468	1.404	0.936	0.936	0.000
Trencher	0.630	0.630	0.630	1.260	1.260	1.260	1.260	1.260	1.260	0.630	0.630	0.630	0.000	1.260	1.260	1.260	1.260	1.260	0.000	0.000	0.000
Loader	0.434	0.434	0.869	0.869	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.434	0.000	0.000	0.000
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.624	0.624	0.000	0.000
Vib Roller	0.241	0.482	0.723	0.723	0.482	0.482	0.482	0.482	0.482	0.482	0.241	0.241	0.241	0.241	0.241	0.241	0.000	0.000	0.000	0.000	0.000
Compactor	0.000	0.000	0.000	0.261	0.261	0.261	0.523	0.523	0.261	0.261	0.261	0.261	0.261	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-230T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.219	2.438	2.438	2.438	2.438	1.219	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-140T	0.000	0.000	0.000	0.000	0.000	0.731	0.731	0.731	0.731	0.731	0.731	0.731	0.731	0.731	0.731	0.731	0.000	0.000	0.000	0.000	0.000
Crane-60T	0.339	0.339	0.339	0.339	0.339	0.339	0.677	0.677	0.677	0.677	0.677	0.677	0.677	0.677	0.339	0.339	0.000	0.000	0.000	0.000	0.000
Crane-45T	0.000	0.290	0.290	0.581	0.581	0.581	0.581	0.581	0.871	0.871	0.871	0.871	0.871	0.871	1.161	0.871	0.871	0.581	0.581	0.000	0.000
Compressors	0.000	0.147	0.147	0.147	0.293	0.586	0.733	0.879	0.879	0.879	0.879	0.879	1.172	0.879	0.879	0.586	0.586	0.440	0.293	0.293	0.147
Manlifts	0.000	0.000	0.000	0.000	0.228	0.228	0.684	1.597	2.053	2.053	2.053	2.053	2.053	1.825	1.368	0.912	0.456	0.000	0.000	0.000	0.000
Welders	0.130	0.130	0.130	0.520	0.780	1.040	1.040	1.040	1.040	1.040	1.040	0.780	0.780	0.520	0.260	0.130	0.000	0.000	0.000	0.000	0.000
Pile Forklift	0.502	0.502	0.502	0.502	0.502	0.502	0.502	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Crane	1.393	1.393	1.393	1.393	1.393	1.393	1.393	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Drill	3.150	3.150	3.150	3.150	3.150	3.150	3.150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL (lb/month)	**2131**	**2315**	**2503**	**2755**	**2647**	**2674**	**2944**	**2468**	**2740**	**3125**	**3164**	**3123**	**3146**	**2749**	**2356**	**2178**	**1852**	**1952**	**1077**	**801**	**417**

Short Term Emissions	
Month (lb/month)	**3164**
Daily (lb/day)	**158**
Hourly (lb/hr)	**19.8**
grams/sec	**2.49**

Long Term Emissions	
Annual (lb/year)	**34036**
Annual (tons/year)	**17.0**
Month (lb/month)	**2836**
Daily (lb/day)	**142**
Hourly (lb/hr)	**17.73**
grams/sec	**2.24**

Yearly Period	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26
Yearly Emissions (lb/yr)	**32588**	**33603**	**34036**	**33889**	**33313**	**32518**	**31797**	**29930**	**28263**	**25940**

Note:

Hourly emission rate based on a 20 work day month and an 8 hour work day.

Table G-3.3R Monthly VOC Construction Emissions Summary

Construction Equipment	(lb/hr) 6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car-Sedan	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.000
Pickup	0.369	0.369	0.421	0.421	0.474	0.474	0.527	0.632	0.632	0.843	0.896	0.896	0.896	0.738	0.738	0.738	0.632	0.632	0.369	0.316	0.211
Dump T	0.011	0.011	0.011	0.011	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Truck	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.003
Water Truck	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022
Flatbed truck	0.003	0.003	0.003	0.003	0.005	0.005	0.005	0.005	0.005	0.011	0.008	0.008	0.008	0.013	0.013	0.024	0.024	0.016	0.019	0.016	0.011
Concrete Pump	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.046	0.046	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	0.060	0.060	0.060	0.060	0.060	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.120	0.060	0.060	0.060	0.060	0.060
Grader	0.492	0.492	0.492	0.492	0.246	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.246	0.246	0.000	0.000	0.000
Dozer	0.170	0.255	0.255	0.255	0.170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.085	0.085	0.000	0.000	0.085	0.255	0.170	0.170	0.000
Trencher	0.095	0.095	0.095	0.189	0.189	0.189	0.189	0.189	0.189	0.095	0.095	0.095	0.000	0.189	0.189	0.189	0.189	0.189	0.000	0.000	0.000
Loader	0.087	0.087	0.174	0.174	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.087	0.000	0.000	0.000
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.089	0.089	0.000	0.000
Vib Roller	0.069	0.138	0.207	0.207	0.138	0.138	0.138	0.138	0.138	0.138	0.069	0.069	0.069	0.069	0.069	0.069	0.000	0.000	0.000	0.000	0.000
Compactor	0.000	0.000	0.000	0.075	0.075	0.075	0.149	0.149	0.075	0.075	0.075	0.075	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-230T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.406	0.813	0.813	0.813	0.813	0.406	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-140T	0.000	0.000	0.000	0.000	0.000	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.244	0.000	0.000	0.000	0.000	0.000
Crane-60T	0.113	0.113	0.113	0.113	0.113	0.113	0.226	0.226	0.226	0.226	0.226	0.226	0.226	0.226	0.113	0.113	0.000	0.000	0.000	0.000	0.000
Crane-45T	0.000	0.097	0.097	0.194	0.194	0.194	0.194	0.194	0.290	0.290	0.290	0.290	0.290	0.290	0.387	0.290	0.290	0.194	0.194	0.000	0.000
Compressors	0.000	0.027	0.027	0.027	0.053	0.107	0.133	0.160	0.160	0.160	0.160	0.160	0.213	0.160	0.160	0.107	0.107	0.080	0.053	0.053	0.027
Manlifts	0.000	0.000	0.000	0.000	0.053	0.053	0.158	0.368	0.474	0.474	0.474	0.474	0.474	0.421	0.316	0.211	0.105	0.000	0.000	0.000	0.000
Welders	0.024	0.024	0.024	0.095	0.142	0.189	0.189	0.189	0.189	0.189	0.189	0.142	0.142	0.095	0.047	0.024	0.000	0.000	0.000	0.000	0.000
Pile Forklift	0.116	0.116	0.116	0.116	0.116	0.116	0.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Crane	0.464	0.464	0.464	0.464	0.464	0.464	0.464	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Drill	0.473	0.473	0.473	0.473	0.473	0.473	0.473	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL (lb/month)	**416**	**460**	**494**	**548**	**498**	**503**	**562**	**449**	**534**	**611**	**608**	**600**	**608**	**512**	**407**	**364**	**302**	**305**	**162**	**108**	**53**

Short Term Emissions	
Month (lb/month)	**611**
Daily (lb/day)	**30.6**
Hourly (lb/hr)	**3.82**
grams/sec	**0.48**

Long Term Emissions	
Annual (lb/year)	**6527**
Annual (tons/year)	**3.26**
Month (lb/month)	**544**
Daily (lb/day)	**27**
Hourly (lb/hr)	**3.40**
grams/sec	**0.43**

Yearly Period	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26
Yearly Emissions (lb/yr)	**6283**	**6475**	**6527**	**6440**	**6256**	**6060**	**5862**	**5462**	**5121**	**4640**

Note:

Hourly emission rate based on a 20 work day month and an 8 hour work day.

Table G-3.4R Monthly SOx Construction Emissions Summary

Construction Equipment	(lb/hr)																				
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car-Sedan	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.000
Pickup	0.018	0.018	0.020	0.020	0.023	0.023	0.025	0.030	0.030	0.041	0.043	0.043	0.043	0.035	0.035	0.035	0.030	0.030	0.018	0.015	0.010
Dump T	0.004	0.004	0.004	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Truck	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001
Water Truck	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
Flatbed truck	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.004	0.003	0.003	0.003	0.004	0.004	0.008	0.008	0.005	0.006	0.005	0.004
Concrete Pump	0.000	0.000	0.000	0.000	0.000	0.009	0.009	0.009	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	0.008	0.008	0.008	0.008	0.008	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.008	0.008	0.008	0.008	0.008
Grader	0.066	0.066	0.066	0.066	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033	0.033	0.000	0.000	0.000
Dozer	0.034	0.051	0.051	0.051	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.017	0.017	0.000	0.000	0.017	0.051	0.034	0.034	0.000
Trencher	0.013	0.013	0.013	0.025	0.025	0.025	0.025	0.025	0.025	0.013	0.013	0.013	0.000	0.025	0.025	0.025	0.025	0.025	0.000	0.000	0.000
Loader	0.012	0.012	0.023	0.023	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.000	0.000	0.000
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.036	0.000	0.000
Vib Roller	0.014	0.028	0.041	0.041	0.028	0.028	0.028	0.028	0.028	0.028	0.014	0.014	0.014	0.014	0.014	0.014	0.000	0.000	0.000	0.000	0.000
Compactor	0.000	0.000	0.000	0.015	0.015	0.015	0.030	0.030	0.015	0.015	0.015	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-230T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.054	0.108	0.108	0.108	0.108	0.054	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-140T	0.000	0.000	0.000	0.000	0.000	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.000	0.000	0.000	0.000	0.000
Crane-60T	0.015	0.015	0.015	0.015	0.015	0.015	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.015	0.015	0.000	0.000	0.000	0.000	0.000
Crane-45T	0.000	0.013	0.013	0.026	0.026	0.026	0.026	0.026	0.039	0.039	0.039	0.039	0.039	0.039	0.052	0.039	0.039	0.026	0.026	0.000	0.000
Compressors	0.000	0.005	0.005	0.005	0.011	0.021	0.027	0.032	0.032	0.032	0.032	0.032	0.043	0.032	0.032	0.021	0.021	0.016	0.011	0.011	0.005
Manlifts	0.000	0.000	0.000	0.000	0.007	0.007	0.021	0.049	0.063	0.063	0.063	0.063	0.063	0.056	0.042	0.028	0.014	0.000	0.000	0.000	0.000
Welders	0.005	0.005	0.005	0.019	0.028	0.038	0.038	0.038	0.038	0.038	0.038	0.028	0.028	0.019	0.009	0.005	0.000	0.000	0.000	0.000	0.000
Pile Forklift	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Crane	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Drill	0.063	0.063	0.063	0.063	0.063	0.063	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL (lb/month)	**54**	**62**	**66**	**75**	**67**	**67**	**75**	**59**	**70**	**77**	**75**	**73**	**76**	**64**	**48**	**42**	**35**	**40**	**24**	**14**	**6**

Short Term Emissions	
Month (lb/month)	**77**
Daily (lb/day)	**3.84**
Hourly (lb/hr)	**0.480**
grams/sec	**0.06**

Long Term Emissions	
Annual (lb/year)	**844**
Annual (tons/year)	**0.422**
Month (lb/month)	**70**
Daily (lb/day)	**4**
Hourly (lb/hr)	**0.44**
grams/sec	**0.06**

Yearly Period	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26
Yearly Emissions (lb/yr)	**821**	**843**	**844**	**826**	**792**	**760**	**734**	**682**	**637**	**573**

Note:

Hourly emission rate based on a 20 work day month and an 8 hour work day.

Table G-3.5R Monthly PM_{10} Construction Emissions Summary

Construction Equipment	(lb/hr)																				
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Car-Sedan	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000
Pickup	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.012	0.012	0.016	0.017	0.017	0.017	0.014	0.014	0.014	0.012	0.012	0.007	0.006	0.004
Dump T	0.009	0.009	0.009	0.009	0.005	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Truck	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.002
Water Truck	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
Flatbed truck	0.002	0.002	0.002	0.002	0.005	0.005	0.005	0.005	0.005	0.009	0.007	0.007	0.007	0.011	0.011	0.020	0.020	0.014	0.016	0.014	0.009
Concrete Pump	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	0.018	0.018	0.018	0.018	0.018	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.018	0.018	0.018	0.018	0.018
Grader	0.146	0.146	0.146	0.146	0.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.073	0.073	0.000	0.000	0.000
Dozer	0.076	0.114	0.114	0.114	0.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038	0.038	0.000	0.000	0.038	0.114	0.076	0.076	0.000
Trencher	0.028	0.028	0.028	0.056	0.056	0.056	0.056	0.056	0.056	0.028	0.028	0.028	0.000	0.056	0.056	0.056	0.056	0.056	0.000	0.000	0.000
Loader	0.026	0.026	0.052	0.052	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.000	0.000	0.000
Paving	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.079	0.079	0.000	0.000
Vib Roller	0.031	0.061	0.092	0.092	0.061	0.061	0.061	0.061	0.061	0.061	0.031	0.031	0.031	0.031	0.031	0.031	0.000	0.000	0.000	0.000	0.000
Compactor	0.000	0.000	0.000	0.033	0.033	0.033	0.066	0.066	0.033	0.033	0.033	0.033	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-230T	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.121	0.241	0.241	0.241	0.241	0.121	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crane-140T	0.000	0.000	0.000	0.000	0.000	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.000	0.000	0.000	0.000	0.000
Crane-60T	0.033	0.033	0.033	0.033	0.033	0.033	0.067	0.067	0.067	0.067	0.067	0.067	0.067	0.067	0.033	0.033	0.000	0.000	0.000	0.000	0.000
Crane-45T	0.000	0.029	0.029	0.057	0.057	0.057	0.057	0.057	0.086	0.086	0.086	0.086	0.086	0.086	0.115	0.086	0.086	0.057	0.057	0.000	0.000
Compressors	0.000	0.018	0.018	0.018	0.035	0.070	0.088	0.105	0.105	0.105	0.105	0.105	0.141	0.105	0.105	0.070	0.070	0.053	0.035	0.035	0.018
Manlifts	0.000	0.000	0.000	0.000	0.023	0.023	0.069	0.162	0.208	0.208	0.208	0.208	0.208	0.185	0.139	0.093	0.046	0.000	0.000	0.000	0.000
Welders	0.016	0.016	0.016	0.062	0.094	0.125	0.125	0.125	0.125	0.125	0.125	0.094	0.094	0.062	0.031	0.016	0.000	0.000	0.000	0.000	0.000
Pile Forklift	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Crane	0.138	0.138	0.138	0.138	0.138	0.138	0.138	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pile Drill	0.140	0.140	0.140	0.140	0.140	0.140	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL (lb/month)	**116**	**134**	**144**	**165**	**150**	**154**	**175**	**143**	**169**	**182**	**177**	**172**	**179**	**149**	**111**	**92**	**75**	**84**	**50**	**27**	**11**

Short Term Emissions	
Month (lb/month)	**182**
Daily (lb/day)	**9.08**
Hourly (lb/hr)	**1.14**
grams/sec	**0.14**

Long Term Emissions	
Annual (lb/year)	**1957**
Annual (tons/year)	**0.979**
Month (lb/month)	**163**
Daily (lb/day)	**8**
Hourly (lb/hr)	**1.02**
grams/sec	**0.13**

Yearly Period	6-17	7-18	8-19	9-20	10-21	11-22	12-23	13-24	14-25	15-26
Yearly Emissions (lb/yr)	**1879**	**1942**	**1957**	**1925**	**1852**	**1777**	**1707**	**1582**	**1466**	**1309**

Note:

Hourly emission rate based on a 20 work day month and an 8 hour work day.

Table G-3.6R - Delivery Truck Daily Emissions

Month	Number of P&T Trucks per Month	Number of Well Trucks per Month	Number of Trips per Day	Haul Distance (miles)	Vehicle Miles Traveled per Day	Emission Factor - lb/vmt					Emission Rate - lbs/day						
						NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}	PM_{10} Idle	PM_{10} Total
6	25	0	2.3	32	73	0.044	0.013	0.0034	0.0004	0.0014	3.20	0.95	0.25	0.03	0.10	0.005	0.11
7	60	0	5.5	32	175	0.044	0.013	0.0034	0.0004	0.0014	7.68	2.27	0.59	0.07	0.24	0.011	0.26
8	55	0	5.0	32	160	0.044	0.013	0.0034	0.0004	0.0014	7.04	2.08	0.54	0.06	0.22	0.011	0.23
9	115	88	16.3	32	522	0.044	0.013	0.0034	0.0004	0.0014	22.98	6.79	1.78	0.21	0.73	0.022	0.75
10	247	176	34.2	32	1094	0.044	0.013	0.0034	0.0004	0.0014	48.14	14.22	3.72	0.44	1.53	0.047	1.58
11	420	176	49.9	32	1597	0.044	0.013	0.0034	0.0004	0.0014	70.28	20.76	5.43	0.64	2.24	0.080	2.32
12	539	176	60.7	32	1943	0.044	0.013	0.0034	0.0004	0.0014	85.51	25.27	6.61	0.78	2.72	0.103	2.82
13	355	176	44.0	32	1408	0.044	0.013	0.0034	0.0004	0.0014	61.96	18.31	4.79	0.56	1.97	0.068	2.04
14	308	176	39.7	32	1271	0.044	0.013	0.0034	0.0004	0.0014	55.94	16.53	4.32	0.51	1.78	0.059	1.84
15	303	264	45.1	32	1445	0.044	0.013	0.0034	0.0004	0.0014	63.56	18.78	4.91	0.58	2.02	0.058	2.08
16	304	264	45.2	32	1448	0.044	0.013	0.0034	0.0004	0.0014	63.69	18.82	4.92	0.58	2.03	0.058	2.08
17	291	264	44.1	32	1410	0.044	0.013	0.0034	0.0004	0.0014	62.03	18.33	4.79	0.56	1.97	0.056	2.03
18	250	264	40.3	32	1290	0.044	0.013	0.0034	0.0004	0.0014	56.78	16.78	4.39	0.52	1.81	0.048	1.85
19	183	264	34.2	32	1096	0.044	0.013	0.0034	0.0004	0.0014	48.20	14.24	3.72	0.44	1.53	0.035	1.57
20	189	264	34.8	32	1113	0.044	0.013	0.0034	0.0004	0.0014	48.97	14.47	3.78	0.45	1.56	0.036	1.59
21	181	264	34.1	32	1090	0.044	0.013	0.0034	0.0004	0.0014	47.95	14.17	3.71	0.44	1.53	0.035	1.56
22	94	*264*	26.1	32	837	0.044	0.013	0.0034	0.0004	0.0014	36.81	10.88	2.84	0.33	1.17	0.018	1.19
23	76	*264*	24.5	32	784	0.044	0.013	0.0034	0.0004	0.0014	34.51	10.20	2.67	0.31	1.10	0.015	1.11
24	62	*176*	17.4	32	556	0.044	0.013	0.0034	0.0004	0.0014	24.46	7.23	1.89	0.22	0.78	0.012	0.79
25	24	88	8.0	32	258	0.044	0.013	0.0034	0.0004	0.0014	11.33	3.35	0.88	0.10	0.36	0.005	0.37
26	24	88	8.0	32	258	0.044	0.013	0.0034	0.0004	0.0014	11.33	3.35	0.88	0.10	0.36	0.005	0.37

Notes:

Emission factors based on EMFAC2000 version 2.02 model output for class 8 heavy-heavy duty diesel trucks.

Distance based on travel to El Centro.

Well trucks added in months 22-24.

Table G-3.7R - Delivery Truck Annual Emissions

Annual Period	Tons/year						
	NO_X	CO	VOC	SO_X	PM_{10}	PM_{10} Idle Exhaust	PM_{10} Total
6-17	5.520	1.631	0.427	0.050	0.176	0.006	0.181
7-18	6.056	1.789	0.468	0.055	0.193	0.006	0.199
8-19	6.461	1.909	0.499	0.059	0.206	0.006	0.212
9-20	6.881	2.033	0.532	0.063	0.219	0.007	0.226
10-21	***7.130***	***2.107***	***0.551***	***0.065***	***0.227***	***0.007***	***0.234***
11-22	7.017	2.073	0.542	0.064	0.223	0.007	0.230
12-23	6.659	1.968	0.515	0.061	0.212	0.006	0.218
13-24	6.049	1.787	0.467	0.055	0.192	0.005	0.197
14-25	5.542	1.638	0.428	0.050	0.176	0.004	0.181
15-26	5.096	1.506	0.394	0.046	0.162	0.004	0.166

Table G-3.8R - Worker Travel Daily Emissions

Month	Number of P&T Workers	Number of Well Workers	Number of Trips per Day	Average Distance (miles)	Vehicle Miles Traveled per Day	Emission Factor - (lb/vmt)					Emission Rate - (lb/day)				
						NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}
1	16	0	32.0	19	608	0.0029	0.034	0.0037	0.000022	0.000077	1.76	20.67	2.25	0.01	0.05
2	24	0	48.0	19	912	0.0029	0.034	0.0037	0.000022	0.000077	2.64	31.01	3.37	0.02	0.07
3	33	0	66.0	19	1254	0.0029	0.034	0.0037	0.000022	0.000077	3.64	42.64	4.64	0.03	0.10
4	36	0	72.0	19	1368	0.0029	0.034	0.0037	0.000022	0.000077	3.97	46.51	5.06	0.03	0.11
5	45	0	90.0	19	1710	0.0029	0.034	0.0037	0.000022	0.000077	4.96	58.14	6.33	0.04	0.13
6	98	0	196.0	19	3724	0.0029	0.034	0.0037	0.000022	0.000077	10.80	126.62	13.78	0.08	0.29
7	115	0	230.0	19	4370	0.0029	0.034	0.0037	0.000022	0.000077	12.67	148.58	16.17	0.10	0.34
8	134	0	268.0	19	5092	0.0029	0.034	0.0037	0.000022	0.000077	14.77	173.13	18.84	0.11	0.39
9	258	24	564.0	19	10716	0.0029	0.034	0.0037	0.000022	0.000077	31.08	364.34	39.65	0.24	0.83
10	317	48	730.0	19	13870	0.0029	0.034	0.0037	0.000022	0.000077	40.22	471.58	51.32	0.31	1.07
11	351	48	798.0	19	15162	0.0029	0.034	0.0037	0.000022	0.000077	43.97	515.51	56.10	0.33	1.17
12	361	48	818.0	19	15542	0.0029	0.034	0.0037	0.000022	0.000077	45.07	528.43	57.51	0.34	1.20
13	333	48	762.0	19	14478	0.0029	0.034	0.0037	0.000022	0.000077	41.99	492.25	53.57	0.32	1.11
14	376	48	848.0	19	16112	0.0029	0.034	0.0037	0.000022	0.000077	46.72	547.81	59.61	0.35	1.24
15	408	72	960.0	19	18240	0.0029	0.034	0.0037	0.000022	0.000077	52.90	620.16	67.49	0.40	1.40
16	438	72	1020.0	19	19380	0.0029	0.034	0.0037	0.000022	0.000077	56.20	658.92	71.71	0.43	1.49
17	435	72	1014.0	19	19266	0.0029	0.034	0.0037	0.000022	0.000077	55.87	655.04	71.28	0.42	1.48
18	437	72	1018.0	19	19342	0.0029	0.034	0.0037	0.000022	0.000077	56.09	657.63	71.57	0.43	1.49
19	481	72	1106.0	19	21014	0.0029	0.034	0.0037	0.000022	0.000077	60.94	714.48	77.75	0.46	1.62
20	473	72	1090.0	19	20710	0.0029	0.034	0.0037	0.000022	0.000077	60.06	704.14	76.63	0.46	1.59
21	474	72	1092.0	19	20748	0.0029	0.034	0.0037	0.000022	0.000077	60.17	705.43	76.77	0.46	1.60
22	395	*72*	934.0	19	17746	0.0029	0.034	0.0037	0.000022	0.000077	51.46	603.36	65.66	0.39	1.37
23	332	*72*	808.0	19	15352	0.0029	0.034	0.0037	0.000022	0.000077	44.52	521.97	56.80	0.34	1.18
24	194	*48*	484.0	19	9196	0.0029	0.034	0.0037	0.000022	0.000077	26.67	312.66	34.03	0.20	0.71
25	123	24	246.0	19	4674	0.0029	0.034	0.0037	0.000022	0.000077	13.55	158.92	17.29	0.10	0.36
26	37	24	74.0	19	1406	0.0029	0.034	0.0037	0.000022	0.000077	4.08	47.80	5.20	0.03	0.11

Note:

Emission factors based on EMFAC2000 version 2.02 model output assuming 50% of workers traveling in Class 1 vehicles and 50% of workers traveling in Class 2 vehicles.

Distance based on travel to Brawley.

Worker travel added in months 22-24.

Table G-3.9R - Worker Travel Annual Emissions

Annual Period	Emission Rate - (Tons/year)				
	NO_X	CO	VOC	SO_X	PM_{10}
1-12	2.16	25.27	2.75	0.02	0.06
2-13	2.56	29.99	3.26	0.02	0.07
3-14	3.00	35.16	3.83	0.02	0.08
4-15	3.49	40.93	4.45	0.03	0.09
5-16	4.01	47.05	5.12	0.03	0.11
6-17	4.52	53.02	5.77	0.03	0.12
7-18	4.98	58.33	6.35	0.04	0.13
8-19	5.46	63.99	6.96	0.04	0.14
9-20	5.91	69.30	7.54	0.04	0.16
10-21	6.20	72.71	7.91	0.05	0.16
11-22	6.31	74.03	8.06	0.05	0.17
12-23	**6.32**	**74.10**	**8.06**	**0.05**	**0.17**
13-24	6.14	71.94	7.83	0.05	0.16
14-25	5.85	68.61	7.47	0.04	0.16
15-26	5.43	63.61	6.92	0.04	0.14

Table G-3.10R - Staffing Schedule and Construction Work Force

Construction Crews	Months After Reward of Contract																									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
Civil/Site Crews	-	-	-	-	-	-	-	21	21	21	16	14	-	-	7	11	14	7	-	-	-	-	11	11	11	-
Concrete Crews	-	-	-	-	-	-	-	-	71	104	124	125	77	44	26	6	6	-	-	-	-	-	-	-	-	-
Structural/Building/Architectural Crews	-	-	-	-	-	-	-	-	-	-	-	4	4	31	33	34	18	18	20	24	24	14	9	4	-	-
Underground Mech. And Elec. Utilities Crews	-	-	-	-	-	-	-	-	48	70	72	60	33	31	24	18	4	-	-	-	-	-	-	-	-	-
Mechanical Equipment Crews	-	-	-	-	-	-	-	-	-	-	7	21	48	50	50	55	55	75	75	60	50	40	30	10	-	-
HVAC/Fire Protection & Insulation Crews	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	9	9	30	47	47	41	58	-	-	-
AG. Piping Crews	-	-	-	-	-	-	-	-	-	5	15	21	40	67	82	102	118	118	118	100	75	38	25	15	-	-
AG. Electrical Power and Controls Crews	-	-	-	-	-	-	-	-	-	-	-	-	18	36	58	87	95	85	84	82	72	55	-	-	-	-
Instrument Crews	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	20	20	20	17	10	-	-	-
System Checkout and Start-Up Crews	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	9	9	23	36	51	26	13	-
Construction Indirect Crews	-	-	-	-	-	21	38	34	34	34	34	33	36	37	34	36	34	31	27	24	27	21	21	14	9	4
Total Construction Craft	-	-	-	-	-	21	38	55	174	234	268	278	256	296	314	355	353	356	383	366	338	262	215	80	33	4
Construction Staff	-	-	-	-	-	32	32	34	39	38	38	45	49	52	52	52	53	55	54	55	54	51	50	42	30	-
Subtotal Construction Work force	-	-	-	-	-	53	70	89	213	272	306	323	305	348	366	407	406	411	437	421	392	313	265	122	63	4
Engineering Staff (Off-Site & On-Site)	16	24	33	36	45	45	45	45	45	45	45	38	28	28	23	15	13	12	12	12	12	12	12	8	8	3
Power Plant Work force	16	24	33	36	45	98	115	134	258	317	351	361	333	376	389	422	419	423	449	433	404	325	277	130	71	7
Transmission Line Work force	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	16	16	14	32	40	70	70	55	64	52	30
Well Field Work force	-	-	-	-	-	-	-	-	24	48	48	48	48	48	72	72	72	72	72	72	72	*72*	*72*	*48*	24	24
Grand Total Work force	16	24	33	36	45	98	115	134	282	365	399	409	381	424	480	510	507	509	553	545	546	467	404	242	147	61

Note: Well field work force added in months 22-24.

Table G-3.11R Truck Deliveries of Equipment / Materials

Equipment Delivered	Average Truck Deliveries Per Month																				
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Heavy Hauling Equipment																					
Condenser Equipment	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-
Steam Turbine/Generator Equipment	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-
Main Transformer Equipment	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Other Equipment and Materials																					
Construction Mobilization and Demobilization	25	25	15	-	-	-	-	-	-	-	-	-	-	-				10	20	20	20
Consumables/Suppies & Misc. Construction	-	35	40	45	50	45	45	45	45	45	45	48	48	45	45	35	38	38	38	-	-
Concrete and Rebar	-	-	-	60	184	328	440	200	104	104	81	52	-	-	-	-	-	-	-	-	-
Miscellaneoas Steel/Achitectural	-	-	-	-	-	12	12	25	35	30	30	30	30	20	20	15	-	-	-	-	-
Steam Turbine/Generator Equipment	-	-	-	-	-	-	-	-	-	-	-	-	10	10	20	29	9	9	-	-	-
Mechanical Equipmant	-	-	-	-	-	15	15	35	35	50	50	71	72	44	44	25	15	5	-	-	-
Piping, Supports and Valves	-	-	-	5	8	10	17	40	62	50	55	47	42	31	16	10	10	-	-	-	-
Electrical Equipment and Materials	-	-	-	5	5	10	10	10	20	20	39	39	39	29	20	19	10	10	-	-	-
Power Plant Equipment Usage	25	60	55	115	247	420	539	355	308	299	300	287	246	179	165	133	82	72	58	20	20
Transmission Line Equipment Usage	-	-	-	-	-	-	-	-	-	4	4	4	4	4	24	48	12	4	4	4	4
Well Field Equipment Usage	-	-	-	88	176	176	176	176	176	264	264	264	264	264	264	264	*264*	*264*	*176*	88	88
Grand Total Equipment Usage	25	60	55	203	423	596	715	531	484	567	568	555	514	447	453	445	358	340	238	112	112

Table G-4R Well Flow Testing Emissions

Pollutant	Production Single Well (lbs/hr)	Production Single Well (gm/sec)	Production 11 Wells (lbs/period)	Injection Single Well (lbs/hr)	Injection Single Well (gm/sec)	Injection 6 Wells (lbs/period)	Total 17 wells (tons/year)
PM 10	64.8	8.17	52877	41.0	5.17	11808	32.3
H2S	11.8	1.49	9618	3.9	0.50	1132	5.37
Ammonia	47.2	5.95	38515	47.2	5.95	13594	26.1
VOC	0.460	0.0580	375	0.460	0.0580	132	0.254

Notes:

Annual production well emissions increased to 816 from 768 hours, injection emissions increased to 288 from 240 hours.

A well could be venting for a total of 96 hours

PTU UTM and stack parameters listed in Table G-17

Only one well will be flow tested at a time

A period is equal to the number of wells drilled during the year

Annual emissions from production wells are based upon 816 hours for 11 wells

Annual emissions from injection wells are based upon 288 hours for 6 wells (2 wells will not be tested)

4 production wells	96 hours
4 production wells	72 hours
Rest of the wells	48 hours

Modeling Scenario	Production	Injection		Injection PAD Locations	East	North	Elevation
Stack Height	75	60	Feet	PAD R (OBI2)	630101	3669781	-217 feet
Stack Diameter	7	5	Feet	PAD P (OBI3)	630101	3669150	-216 feet
Stack Temperature	226.7	226.7	F	PAD O (OBI1)	629269	3668355	-214 feet
Stack Velocity	40.8	55.9	feet/sec	PTU	628161	3760594	-222 feet
	At PTU	At Well Pad					
	0.8 mlbs/hr	0.8 mlbs/hr					

Taken from USGS Maps (NAD27, NGVD29)

Table G-5R Plant Commissioning Emissions

Pollutant	PTU (lbs/hr)	PTU (lbs/period)	VRTs (total) (lbs/hr)	Cooling Tower (lbs/hr)	Steamblow (lbs/period)	Total (tons/period)
PM 10	64.8	11664	6.83	3.62	51.6	6.25
H2S	11.8	2122	190	4.32	1439	9.3
Ammonia	47.2	8496	712.3	712	5942	58.4
VOC	0.460	83	3.72	0.39	169	0.3

Notes:

A total of 180 hours will be venting at PTU emission rates (18*10)

A total of 77.49 equivalent hours will be venting at 12.8 mpph emission rates

A total of 72 hours will be venting at steam blow locations at 31.5% of full VRT emission rates (12.8 mpph)

A total of 71.82 hours will be venting at cooling tower

The hours are based on adding the cumulative emissions estimated during the total period. Refer to Table G-5.1

Modeling Scenarios

#1 One well venting at the PTU while nine wells are venting at the Vent Tanks.

At the Vent Tanks, a factor of 56% of the 12.8 mpph emission rate for one hour and for the 24 hour rate, a factor of 54.25% (56*18/24+49*6/24)

At the PTU, a factor of 100% for 1 hour case and 75% for the 24 hour case (100*18/24+0*6/24)

#2 All ten wells venting at the Vent Tanks (63% of the 12.8 mpph flow)

#3a HP Steam blow, refer to Table G-5.4

#3b SP Steam blow, refer to Table G-5.5

#3c LP Steam blow, refer to Table G-5.6

Table G-5.1R Plant Commissioning Schedule

FACILITY STARTUP	Event Start Time		Event Finish Time							
Event	**Date**	**Time**	**Date**	**Time**	**Emission Location**	**PTU/Steam Blow Stack Rates**	**VRT A Rate**	**VRT B Rate**	**VRT C Rate**	**VRT D Rate**
No. 1 Well Warmup	1	0:00	1	18:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 1 Production Line Warmup	1	18:00	2	0:00	VRTs		2.6% of VRTs (total)	2.6% of VRTs (total)	0	0
Preheat RPF Vessels	2	0:00	2	12:00	VRTs		2.6% of VRTs (total)	2.6% of VRTs (total)	0	0
No. 2 Well Warmup	1	18:00	2	12:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 2 Production Line Warmup	2	12:00	3	6:00	VRTs		5.2% of VRTs (total)	5.2% of VRTs (total)	0	0
No. 3 Well Warmup	2	12:00	3	6:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 3 Production Line Warmup	3	6:00	4	0:00	VRTs		7.8% of VRTs (total)	7.8% of VRTs (total)	0	0
No. 4 Well Warmup	3	6:00	4	0:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 4 Production Line Warmup	4	0:00	4	18:00	VRTs		10.4% of VRTs (total)	10.4% of VRTs (total)	0	0
No. 5 Well Warmup	4	0:00	4	18:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 5 Production Line Warmup	4	18:00	5	12:00	VRTs		13% of VRTs (total)	13% of VRTs (total)	0	0
No. 6 Well Warmup	4	18:00	5	12:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 6 Production Line Warmup	5	12:00	6	6:00	VRTs		13% of VRTs (total)	13% of VRTs (total)	3.15% of VRTs (total)	3.15% of VRTs (total)
No. 7 Well Warmup	5	12:00	6	6:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 7 Production Line Warmup	6	6:00	7	0:00	VRTs		13% of VRTs (total)	13% of VRTs (total)	5.2% of VRTs (total)	5.2% of VRTs (total)
No. 8 Well Warmup	6	6:00	7	0:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 8 Production Line Warmup	7	0:00	7	18:00	VRTs		13% of VRTs (total)	13% of VRTs (total)	7.8% of VRTs (total)	7.8% of VRTs (total)
No. 9 Well Warmup	7	0:00	7	18:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 9 Production Line Warmup	7	18:00	8	0:00	VRTs		13% of VRTs (total)	13% of VRTs (total)	10.4% of VRTs (total)	10.4% of VRTs (total)
No. 10 Well Warmup	7	18:00	8	12:00	Production Test Unit	Production Test Unit (Well Startup)				
No. 10 Production Line Warmup	8	12:00	9	6:00	VRTs	52% of Vent Tanks (HP, SP, LP)	13% of VRTs (total)	13% of VRTs (total)	13% of VRTs (total)	13% of VRTs (total)
HP Steam Blow (First Line - Train 1)	9	6:00	9	18:00	HP Steam Blow Stack, VRTs	Steam Blow Stack: HP Steam Blow	13% SP + 13% LP	13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP
HP Steam Blow (Second Line - Train 2)	9	18:00	10	6:00	HP Steam Blow Stack, VRTs	Steam Blow Stack: HP Steam Blow	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% SP + 13% LP	13% SP + 13% LP
SP Steam Blow (First Line - Train 1)	10	6:00	10	18:00	SP Steam Blow Stack, VRTs	Steam Blow Stack: SP Steam Blow	13% HP + 13% LP	13% HP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP
SP Steam Blow (Second Line - Train 2)	10	18:00	11	6:00	SP Steam Blow Stack, VRTs	Steam Blow Stack: SP Steam Blow	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP + 13% LP	13% HP + 13% LP
LP Steam Blow (First Line - Train 1)	11	6:00	11	18:00	LP Steam Blow Stack, VRTs	Steam Blow Stack: LP Steam Blow	13% HP + 13% SP	13% HP + 13% SP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP
LP Steam Blow (Second Line - Train 2)	11	18:00	12	6:00	LP Steam Blow Stack, VRTs	Steam Blow Stack: LP Steam Blow	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP	13% HP +13% SP
Turbine Preheat, Vacuum Test, and Other Tests	12	6:00	16	6:00	Cooling Towers		13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP
Turbine Load Test, Etc.	16	6:00	17	0:00	Cooling Towers		13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP	13% HP +13% SP + 13% LP
Turbine Performance Test	17	0:00	20	0:00	Normal Operating Condition Emissions					

Notes:

1.) Times are relative. They are approximate and subject to change when a more definitive startup program is developed.
2.) Only components of facility startup schedule during which time emissions are released are shown. Startup problems may extend some of the durations shown.
3.) Emission rates for each well during Well Warmup and Production Line Warmup are additive during the time they coincide.
4.) Levels are established in the wellhead separators and primary/secondary clarifiers are filled during warmup of wells 2 through 10.
5.) Normal operating condition emissions occur from the start of turbine performance test onward.
6.) Power supply by the IID (via backfeeding through the transmission system) is assumed.
7.) Total flow to the VRTs increase in increments of 5.2% as each successive well is brought into the system.
8.) Steam blow percentages apply to velocity and constituents for each of the respective vent tanks. Other vent tank properties are unchanged.
9.) Train 1 / Train 2 header isolation valve upstream of separators opened after 10th well brought into system, balancing Train 1 / Train 2 flow
10.) Rates are shown as a percentage of the 15.4 mpph rate, however flow rates remain the same as in the 12.8 mpph case.

Table G-5.2R Plant Commissioning Scenario #1

Pollutant	Scenario #1					
	VRTs (total)				PTU	
	1-Hour		24-Hour		1 & 24-Hour	
	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)
PM 10	3.82E+00	4.82E-01	3.71E+00	4.67E-01	64.8	8.17E+00
H2S	1.07E+02	1.34E+01	1.03E+02	1.30E+01	11.8	1.49E+00

Modeling Scenario #1 - 56%

	VRT A	VRT B	VRT C	VRT D	PTU	
Stack Height =	80	80	80	80	75	feet
Stack Diameter =	10.00	10.00	10.00	10.00	7.00	feet
Stack Temperature =	295	295	295	295	226.7	F
Stack Velocity =	54.6	54.6	32.8	32.8	40.8	feet/sec
PM10 1-Hour =	1.195	1.195	0.717	0.717	64.8	lbs/hr
PM10 1-Hour =	0.151	0.151	0.090	0.090	8.17	gm/sec
H2S 1-Hour =	33.304	33.304	19.983	19.983	11.8	lbs/hr
H2S 1-Hour =	4.200	4.200	2.520	2.520	1.49	gm/sec
PM10 24-Hour =	1.195	1.195	0.538	0.538	48.6	lbs/hr
PM10 24-Hour =	0.151	0.151	0.068	0.068	6.13	gm/sec
H2S 24-Hour =	33.304	33.304	14.987	14.987	8.84	lbs/hr
H2S 24-Hour =	4.200	4.200	1.890	1.890	1.11	gm/sec

Notes:

DWH removed, flowrates for commissioning remain the same.

VRTs will vent at the 49% condition for 6 hours per day

VRTs will vent at the 56% condition for 18 hours per day

Table G-5.3R Plant Commissioning Scenario #2

Pollutant	Scenario #2			
	VRTs (total)		VRTs (each)	
	1 & 24-Hour		1 & 24-Hour	
	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)
PM 10	4.303	5.43E-01	1.08E+00	1.36E-01
H2S	1.20E+02	1.51E+01	3.00E+01	3.78E+00

DWH removed, flowrates for commissioning remain the same.

Modeling Scenario #2

	VRT A	VRT B	VRT C	VRT D	
Stack Height =	**80**	**80**	**80**	**80**	**feet**
Stack Diameter =	**10.00**	**10.00**	**10.00**	**10.00**	**feet**
Stack Temperature =	**295**	**295**	**295**	**295**	**F**
Stack Velocity =	**49.1**	**49.1**	**49.1**	**49.1**	**feet/sec**

Table G-5.4R Steam Blow Emissions Scenario #3a

	Scenario #3a									
	Train 1 Steam Blow				Train 2 Steam Blow					
	VRT A & B (each) 1&24-Hour		VRT C & D (each) 1&24-Hour		VRT A & B (each) 1&24-Hour		VRT C & D (each) 1&24-Hour		HP Steam Blow 1&24-Hour	
Pollutant	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)
PM 10	4.52E-01	5.70E-02	1.08E+00	1.36E-01	1.08E+00	1.36E-01	4.52E-01	5.70E-02	1.25E+00	1.57E-01
H2S	2.79E+00	3.52E-01	3.00E+01	3.79E+00	3.00E+01	3.79E+00	2.79E+00	3.52E-01	5.45E+01	6.87E+00

Notes:

A total of 24 hours of steam blow is anticipated.

Half the high pressure steam is routed to the steam blow.

DWH removed, flowrates for commissioning remain the same.

Modeling Scenario #3a - Train 1 Steam Blow - 12 Hours

	VRT A	VRT B	VRT C	VRT D	HP Steam Blow A	
Stack Height =	80	80	80	80	80	feet
Stack Diameter =	10.00	10.00	10.00	10.00	2.50	feet
Stack Temperature =	269	269	295	295	322.00	F
Stack Velocity =	23.9	23.9	49.1	49.1	287.00	feet/sec

Modeling Scenario #3a - Train 2 Steam Blow - 12 Hours

	VRT A	VRT B	VRT C	VRT D	HP Steam Blow B	
Stack Height =	80	80	80	80	80	feet
Stack Diameter =	10.00	10.00	10.00	10.00	2.50	feet
Stack Temperature =	295	295	269	269	322.00	F
Stack Velocity =	49.1	49.1	23.9	23.9	287.00	feet/sec

Table G-5.5R Steam Blow Emissions Scenario #3b

	Scenario #3b									
	Train 1 Steam Blow				Train 2 Steam Blow					
	VRT A & B (each) 1&24-Hour		VRT C & D (each) 1&24-Hour		VRT A & B (each) 1&24-Hour		VRT C & D (each) 1&24-Hour		SP Steam Blow 1&24-Hour	
Pollutant	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)
PM 10	8.74E-01	1.10E-01	1.08E+00	1.36E-01	1.08E+00	1.36E-01	8.74E-01	1.10E-01	4.03E-01	5.08E-02
H2S	2.79E+01	3.52E+00	3.00E+01	3.79E+00	3.00E+01	3.79E+00	2.79E+01	3.52E+00	4.25E+00	5.36E-01

Notes:

A total of 24 hours of steam blow is anticipated.

Half the standard pressure steam is routed to the steam blow.

DWH removed, flowrates for commissioning remain the same.

Modeling Scenario #3b: Train 1 Steam Blow - 12 Hours

	VRT A	VRT B	VRT C	VRT D	SP Steam Blow A	
Stack Height =	80	80	80	80	40	feet
Stack Diameter =	10.00	10.00	10.00	10.00	2.50	feet
Stack Temperature =	294	294	295	295	299.00	F
Stack Velocity =	38.3	38.3	49.1	49.1	194.60	feet/sec

Modeling Scenario #3b: Train 2 Steam Blow - 12 Hours

	VRT A	VRT B	VRT C	VRT D	SP Steam Blow B	
Stack Height =	80	80	80	80	40	feet
Stack Diameter =	10.00	10.00	10.00	10.00	2.50	feet
Stack Temperature =	295	295	294	294	299.00	F
Stack Velocity =	49.1	49.1	38.3	38.3	194.60	feet/sec

Table G-5.6R Steam Blow Emissions Scenario #3c

	Scenario #3c									
	Train 1 Steam Blow				Train 2 Steam Blow					
	VRT A & B (each) 1&24-Hour		VRT C & D (each) 1&24-Hour		VRT A & B (each) 1&24-Hour		VRT C & D (each) 1&24-Hour		LP Steam Blow 1&24-Hour	
Pollutant	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)
PM 10	8.25E-01	1.04E-01	1.08E+00	1.36E-01	1.08E+00	1.36E-01	8.25E-01	1.04E-01	5.01E-01	6.32E-02
H2S	2.94E+01	3.70E+00	3.00E+01	3.79E+00	3.00E+01	3.79E+00	2.94E+01	3.70E+00	1.33E+00	1.67E-01

Notes:

A total of 24 hours of steam blow is anticipated.

Half the low pressure steam is routed to the steam blow.

DWH removed, flowrates for commissioning remain the same.

Modeling Scenario #3c: Train 1 Steam Blow - 12 Hours

	VRT A	VRT B	VRT C	VRT D	LP Steam Blow A	
Stack Height =	80	80	80	80	40	feet
Stack Diameter =	10.00	10.00	10.00	10.00	3.00	feet
Stack Temperature =	315	315	295	295	246.00	F
Stack Velocity =	36.1	36.1	49.1	49.1	315.90	feet/sec

Modeling Scenario #3c: Train 2 Steam Blow - 12 Hours

	VRT A	VRT B	VRT C	VRT D	LP Steam Blow B	
Stack Height =	80	80	80	80	40	feet
Stack Diameter =	10.00	10.00	10.00	10.00	3.00	feet
Stack Temperature =	295	295	315	315	246.00	F
Stack Velocity =	49.1	49.1	36.1	36.1	315.90	feet/sec

TABLE G-6R Noncondensible Gas And Offgassing Emissions

Noncondensible Gas Emissions					
	NCG	Control	Exhaust		
Pollutant	(lbs/hr)	(%)	(lbs/hr)	(gm/sec)	(tons/year)
H2S	134.5	99.5	0.673	0.0848	2.95
Ammonia	0.14		0.14	0.0179	0.622
VOC	4.47		0.47	0.0595	2.067

Cooling Tower Offgassing Emissions					
	Condensate	Control	Offgas		
Pollutant	(lbs/hr)	(%)	(lbs/hr)	(gm/sec)	(tons/year)
H2S	89.7	Varies	4.540	0.57	19.9
Ammonia	856.5		856	108.0	3225
H2S Vent	1.90E-02		1.90E-02	2.40E-03	0.08

Cooling Tower NCG and Offgassing Totals					
			Total		
Pollutant			(lbs/hr)	(gm/sec)	(tons/year)
H2S			5.2	0.66	22.9
Ammonia			857	108.0	3226
VOC			0.47	0.0595	2.067

Notes:

Most parameters have been modified, UTM and stack parameters are listed in Table G-17 .

Ammonia tons per year is based upon an annual average (736.3 lbs/hr)

H2S now has 60% partion to NCG and 40% to Condensate, it was 80/20.

Modeling Scenario

Stack Height	**57.5**	**Feet**	
Stack Diameter	**27.49**	**Feet**	
Stack Temperature		**Stack Velocity**	
Summer	**104**	**F**	**Summer**	**36.33**	**feet/sec**
Fall/Spring	**92**	**F**	**Fall/Spring**	**35.93**	**feet/sec**
Winter	**86**	**F**	**Winter**	**35.77**	**feet/sec**

H2S vent comes from the condensate chemical treatment and is vented at the second cell (b) of Tower number 1.

Condensate is treated as follows:

	lb/hr	Control	lb/hr	Release Factor	Potential Offgas
HP Condensate	**84.32**	**94%**	**5.0592**	**0.435**	**2.200752**
SP Condensate	**3.59**		**3.59**	**0.435**	**1.56165**
LP Condensate	**1.79**		**1.79**	**0.435**	**0.77865**
TOTAL	**89.7**			**TOTAL**	**4.541052**

Condensate is routed to two cells (a and e) of Tower number 1.

The NCG gases are routed to the remaining 8 cells of Tower number 1.

Table G-7R Cooling Tower Drift Emissions

Pollutant	Cooling Tower			
	(PPM)	(lbs/hr)	(gm/sec)	(tons/year)
PM 10	4500	3.62	0.46	15.85
Ammonia	0.99	7.96E-04	1.00E-04	3.49E-03

Notes:	**0.0005**	**Drift %**	**Blowdown TDS**	**4500**	**ppm**
	804.40	**CT Factor**	**Circulation**	**323635**	**gpm**
			Circulation	**160879**	**kpph**

Circulation has been increased to 323635 gpm from 260000gpm.

UTM and stack parameters listed in Table G-6 and Table G-17

Table G-9R ORMAT SYSTEM Emissions

VOC Release Estimate (Fugitive)	**1600**	**gallons of isopentane per year**
	0.19	**gallons per pound specific volume**
	8421	**pounds per year**
	23.1	**pounds per day**
	4.21	**tons per year**
	0.961	**pounds per hour**

Notes:

UTM and stack parameters listed in Table G-17

VOC emissions are due to equipment leaks

No other emissions expected, collected condensate will be injected at a plant well.

During Ormat heat exchanger upset, steam will be released at the AFT system.

AFT RELEASE

	Total		
Pollutant	lbs/hr	grams/sec	tons/year
PM10	13.6	1.72	0.34
H2S	0.816	0.10287	0.02
Ammonia	39.80	5.02	0.99

Notes:

50 hours per year estimated for annual emissions

UTM and stack parameters listed in Table G-17

Modeling Scenario

	Four Stacks	
Stack Height	**66**	**Feet**
Stack Diameter	**10**	**Feet**
Stack Temperature	**228.2**	**F**
Stack Velocity	**65.8**	**feet/sec**

Table G-10R Filter Cake Handling Emissions

Pollutant	Concentration (PPM)	Annual Average			
		(lb/day)	(lbs/hr)	(gm/sec)	(tons/year)
PM10		0.009235	1.15E-03	1.46E-04	1.69E-03

Pollutant	Concentration (PPM)	Daily Maxmium		
		(lb/day)	(lbs/hr)	(gm/sec)
PM10		0.061569	7.70E-03	9.71E-04

Notes:

Work period is 8 hours per day.

20 tons per trailer.

6 trailers per day.

45 trailers maximum stored.

Surface area of trailer is 200 square feet.

Total maximum surface area is 9000 square feet or 837 square meters.

For daily maximum estimated metals and Norm peak concentrations at 2 times annual average.

Table G-10.1R Filter Cake Handling Fugitive Emissions

Truck Loading: AP-42 Section 13.2.4 (1/95)

E = (0.35)*(.0032)*((u/5)^1.3)/((M/2)^1.4)

u = mean wind speed =	6.6	mph annual mean wind speed at Imperial County Airport
u = mean wind speed =	28.4	mph maximum 24-hour wind speed at Imperial County Airport
M = moisture =	20	Average moisture of filtercake
E = emission factor =	0.00006	lbs per ton - annual average
E = emission factor =	0.00043	lbs per ton - max 24 hour
Silica Filtercake production rate =	144	tons/day
E = emission factor =	0.00924	lbs/day - annual average
E = emission factor =	0.06157	lbs/day - max 24 hour

Silica Filter cake will go from the filterpress to a conveyor which will load a trailer.
Trailer will be tarped and moved to the waiting area prior to being transported for disposal
No other fugitive dust emissions are expected from this operation

Silica Filter Cake Modeling Scenarios:

1. One volume emission point for conveyor discharge (was two emission points)
Stack height 15 feet, to top of trailer 12 feet

2. One area emission point for radon stored in trailers
Stack height (top of trailer) 12 feet

Sulfur Filtercake production rate =	3.0	tons/day			
E = emission factor =	0.00019	lbs/day - annual average	8.02E-06	lbs/hr	3.51E-05 tons/year
E = emission factor =	0.00128	lbs/day - max 24 hour	5.34E-05	lbs/hr	
E = emission factor =	1.01E-06	grams/sec - annual average			
E = emission factor =	6.74E-06	grams/sec - max 24 hour			

Sulfur Filter Cake Modeling Scenario:

One volume emission point for conveyor discharge
Stack height 15 feet, to top of trailer 12 feet

Table G-11 Engine Emissions

				Emission Factor - grams/bhp-hr					Emission Rate - lb/hr				
Equipment	**Fuel**	**Engine HP**	**Load Factor**	**NO_X**	**CO**	**VOC**	**SO_X**	**PM_{10}**	**NO_X**	**CO**	**VOC**	**SO_X**	**PM_{10}**
EG-480	Diesel	471	100	4.68	0.13	0.04	0.1840	0.0280	4.86	0.13	0.04	0.19	0.02905
EG-4160	Diesel	2847	100	5.46	0.35	0.13	0.1840	0.1030	34.24	2.19	0.82	1.15	0.64591
Fire Pump	Diesel	290	100	5.7	0.3	0.08	0.1840	0.0700	3.64	0.16	0.05	0.12	0.04471
							Total (lb/day) EG480		**116.53**	**3.24**	**1.00**	**4.58**	**0.70**
							Total (lb/day) EG4160		**821.74**	**52.68**	**19.57**	**27.69**	**15.50**
							Total (lb/day) FP		**87.38**	**3.83**	**1.23**	**2.82**	**1.07**
							Total (gm/s) EG480		**0.61**	**0.02**	**0.01**	**0.02**	**0.00**
							Total (gm/s) EG4160		**4.32**	**0.28**	**0.10**	**0.15**	**0.08**
							Total (gm/s) FP		**0.46**	**0.02**	**0.01**	**0.01**	**0.01**
							Total (tons/year) EG480		**0.24**	**0.0067**	**0.0021**	**0.0095**	**0.0015**
							Total (tons/year) EG4160		**1.71**	**0.110**	**0.041**	**0.058**	**0.032**
							Total (tons/year) FP		**0.18**	**0.0080**	**0.0026**	**0.0059**	**0.0022**
							Total (tons/year)		**2.14**	**0.124**	**0.045**	**0.073**	**0.036**

Long term (gm/s) EG480	**6.99E-03**	**1.94E-04**	**5.97E-05**	**2.75E-04**	**4.18E-05**
Long term (gm/s) EG4160	**4.93E-02**	**3.16E-03**	**1.17E-03**	**1.66E-03**	**9.30E-04**
Long term (gm/s) FP	**5.24E-03**	**2.30E-04**	**7.36E-05**	**1.69E-04**	**6.44E-05**

Notes:

NO_X,CO,VOC,and PM_{10} emission factors based on manufacturer's data sheets.

SO_X emission factors based on .05% sulfur in the fuel.

Annual Emissions based on 100 hours.

UTM and stack parameters listed in Table G-17.

Table G-12R Operation and Maintenance Equipment Emissions

O&M Equipment	Fuel	Usage Hours/Year	Engine HP	Load Factor	Emission Factors - grams/bhp-hr					Emission Rates - lbs/hr				
					NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}
Pickups	G	7280	202	80	0.15	1.34	0.07	0.23	0.01	0.053	0.477	0.025	0.082	0.0036
Dump Trucks	G	1054.5	370	41	5	37.1	1.9	0.184	0.01	1.671	12.397	0.635	0.061	0.0033
Water Truck	G	185	185	41	5	37.1	1.9	0.184	0.01	0.835	6.198	0.317	0.031	0.0017
Forklift	D	156	83	30	5.8	8.5	1.00	0.184	0.16	0.318	0.466	0.055	0.010	0.0088
Boom Truck	G	450	185	51	5	37.1	1.90	0.184	0.01	1.039	7.710	0.395	0.038	0.0021
Crane-50T	D	384	184	43	5.8	8.5	1.00	0.184	0.16	1.011	1.481	0.174	0.032	0.0279
Manlift	D	384	43	51	5.8	8.5	1.00	0.184	0.16	0.280	0.411	0.048	0.009	0.0077
Carry Deck	D	156	43	51	5.8	8.5	1.00	0.184	0.16	0.280	0.411	0.048	0.009	0.0077
								Total (lbs/hr)		**5.488**	**29.551**	**1.698**	**0.272**	**0.0628**
								Total (gm/sec)		**0.692**	**3.727**	**0.214**	**0.034**	**0.0079**

O&M Equipment		Usage Hours/Year			Emission Rates - lbs/day					Emission Rates - tons/year				
					NO_X	CO	VOC	SO_X	PM_{10}	NO_X	CO	VOC	SO_X	PM_{10}
Pickups		7280			0.43	3.82	0.20	0.65	0.03	0.194	1.736	0.091	0.298	0.013
Dump Trucks		1054.5			13.37	99.17	5.08	0.49	0.03	0.881	6.536	0.335	0.032	0.0018
Water Truck		185			6.68	49.59	2.54	0.25	0.01	0.077	0.573	0.029	0.003	0.0002
Forklift		156			2.54	3.73	0.44	0.08	0.07	0.025	0.036	0.004	0.001	0.0007
Boom Truck		450			8.31	61.68	3.16	0.31	0.02	0.234	1.735	0.089	0.009	0.0005
Crane-50T		384			8.09	11.85	1.39	0.26	0.22	0.194	0.284	0.033	0.006	0.0054
Manlift		384			2.24	3.28	0.39	0.07	0.06	0.054	0.079	0.009	0.002	0.0015
Carry Deck		156			2.24	3.28	0.39	0.07	0.06	0.022	0.032	0.004	0.001	0.0006
								Total (tons/year)		**1.68**	**11.01**	**0.59**	**0.35**	**0.0235**
								Total (gm/sec)		**0.0484**	**0.3171**	**0.0171**	**0.0101**	**0.00068**

Total Diesel PM10 (gm/sec)	**0.000234**

Notes:

G means gasoline

D means diesel

Usage factors based on operating experience

Diesel NO_X,CO,VOC,and PM_{10} emission factors based on EPA 420-F-97-014 Emission Standards Reference Guide for Heavy-Duty and Nonroad Engines

Pickup Gasoline NO_X,CO,VOC,and PM_{10} emission factors based on EPA 420-B-00-001, California Certification Exhaust Emission Standards

SO_X emission factors based on .05% sulfur fuel

Load factors based on Table A9-8-D, SCAQMD CEQA Handbook

Modeling Scenario: 5 point sources for truck moving trailers from filter press to storage pad, 12 point sources for rest of OM Equipment spread in equipment area

Each point source used typical truck stack parameters, 12 feet high, temperature 850 F, velocity 298 ft/sec, diameter 4 inches

Modification Result **No change**

Table G-12.1R Operation and Maintenance Equipment Fugitive Emissions

Construction Equipment	Emission Source	Emission Factor	EF Units	VMT per day	Uncontrolled Emission Rate (lb/day)	Controlled Emission Rate* (lb/month)	Controlled Emission Rate* (tons/year)
Pickups	Paved roads	0.0009	lb/vmt	15	0.0135	0.4	0.002
	Unpaved roads	0.3222	lb/vmt	11.1	3.5769	21.5	0.129
Dump Trucks	Paved roads	0.0193	lb/vmt	37.5	0.7219	21.7	0.130
Water Truck	Paved roads	0.0087	lb/vmt	3.7	0.0322	1.0	0.006
	Unpaved roads	0.3222	lb/vmt	5	1.6112	9.7	0.058
Forklift	Paved roads	0.0055	lb/vmt	1	0.0055	0.2	0.001
Crane-45T	Paved roads	0.0523	lb/vmt	1	0.0523	1.6	0.009
Boom Truck	Paved roads	0.0055	lb/vmt	1	0.0055	0.2	0.001
Manlifts	Paved roads	0.0055	lb/vmt	1	0.0055	0.2	0.001
Carry Deck	Paved roads	0.0055	lb/vmt	1	0.0055	0.2	0.001
						Total (tons/year)	**0.338**
						(lbs/hr)	**0.078**
						(gm/sec)	**0.010**

Notes:

Paved roads: AP-42 Section 13.2.1 10/01 draft

E = k(sL/2)^0.65*(W/3)^1.5

k = particle size constant =	**0.016**	**lb/VMT - PM10**
sL = silt loading =	**0.04**	**g/m2 (AP-42, page 13.2.1-7, low ADT access roads)**
W = Pickup avg. vehicle weight =	**2.4**	**tons (CARB Area Source Manual, 9/97)**
E = Pick truck emission factor =	**0.0009**	**lb/VMT - PM10**
W = Water truck avg. vehicle weight =	**10.9**	**tons (15 tons full; 6.7 tons empty) estimated**
E = Water truck emission rate =	**0.0087**	**lb/VMT - PM10**
W = Dump truck avg. vehicle weight =	**18.5**	**tons (max 27.5 tons; empty 9.5 tons)**
E = Dump truck emission rate =	**0.0193**	**lb/VMT - PM10**
W = Forklift/ Misc avg. vehicle wt =	**8**	**tons estimated**
E = Forklift/ Misc emission rate =	**0.0055**	**lb/VMT - PM10**
W = Crane 50T vehicle wt =	**36**	**tons estimated**
E = Crane emission rate =	**0.0523**	**lb/VMT - PM10**

Unpaved roads: AP-42 Section 13.2.2 10/01

Public road

E = (k)[(s/12)^0.8]*[(S/30)]/[(M/0.5)^0.2]

k = particle size constant =	**1.8**	**lb/VMT - PM10**
s = silt fraction % =	**11**	**AP-42, TABLE 13.2.2-1, mean for dirt roads, percent**
S = speed =	**10**	**mph work limit**
M = moisture level % =	**7.9**	**Mean moisture for overburden AP-42 Table 11.9-3**
E = Emission factor =	**0.3222**	**lb/VMT - PM10**
E = Controlled Emission factor =	**0.0644**	**lb/VMT - PM10**

*** All upaved roads with a control efficiency of 80% estimated, page 13.2.2-11, AP-42**

TABLE G-13R TOTAL OPERATING EMISSIONS (tons/year)

Pollutant	Cooling Tower	ORMAT SYSTEM	Filter Cake Silica	Filter Cake Sulfur	Engines	O&M	Total
NOx	--	--	--	--	2.14	1.68	3.82
CO	--	--	--	--	0.12	11.01	11.14
VOC	2.07	4.21	--	--	0.05	0.59	6.92
SO2	--	--	--	--	0.07	0.35	0.42
PM 10	15.85	--	1.69E-03	3.51E-05	0.04	0.36	16.25
H2S	22.92	--	--	--	--	--	22.92
Ammonia	3226	--	--	--	--	--	3226

Table G-14R Well Flow Run Emissions

Pollutant	Production Single Well (lbs/hr)	Production Single Well (gm/sec)	Production Multiple Wells (lbs/period)	Injection Single Well (lbs/hr)	Injection Single Well (gm/sec)	Injection Multiple Wells (lbs/period)	Total (tons/year)
PM 10	64.8	8.17	18403	41.0	5.17	2952	10.7
H2S	11.8	1.49	3347	3.9	0.50	283	1.8
Ammonia	47.2	5.95	13405	47.2	5.95	3398	8.4
VOC	0.460	0.0580	131	0.460	0.0580	4.18	0.0674

Notes:

A well could be venting for a total of 48 hours
PTU UTM and stack parameters listed in Table G-17
Only one well will be flow tested at a time
A period is equal to the number of hours the flow is run during the year
Annual emissions from production wells increased to 284 hours from 232 hours
Annual emissions from injection wells increased to 72 hours from 54 hours

Production wells	**48 hours**
Injection wells	**18 hours**

Modeling Scenario	**Production**	**Injection**		**Injection PAD Locations**	**East**	**North**	**Elevation**
Stack Height	**75**	**60**	**Feet**	**PAD R (OBI2)**	**630101**	**3669781**	**-217 feet**
Stack Diameter	**7**	**5**	**Feet**	**PAD P (OBI3)**	**630101**	**3669150**	**-216 feet**
Stack Temperature	**226.7**	**226.7**	**F**	**PAD O (OBI1)**	**629269**	**3668355**	**-214 feet**
Stack Velocity	**40.8**	**55.9**	**feet/sec**	**PTU**	**628161**	**3760594**	**-222feet**
	At PTU	**At Well Pad**					
	0.8 mlbs/hr	**0.8 mlbs/hr**		**Taken from USGS Maps (NAD27, NGVD29)**			

Table G-15R VRT Emissions during Venting

Pollutant	VRTs (total) (lbs/hr)	VRTs (total) (grams/sec)	VRTs (each) (lbs/hr)	VRTs (each) (grams/sec)	Cooling Tower (lbs/hr)	Cooling Tower (grams/sec)	Total (lbs/year)	Total (tons/year)
PM 10	2.87	3.62E-01	0.72	9.05E-02	3.62	4.57E-01	3.25E+02	0.162
H2S	17.7	2.23	4.43	5.58E-01	2.29	2.89E-01	1.00E+03	0.500
Ammonia	86.0	10.85	21.50	2.71E+00	626	7.90E+01	3.56E+04	17.808
VOC	4.280	0.540	1.07	1.35E-01	0.39	4.93E-02	2.34E+02	0.117

Notes:

- An annual total of 50 hours
- Actual rates will vary
- UTM and stack parameters listed in Table G-17
- Brine flowrate will average 12.8 million pounds per hour or less during venting

Modeling Scenario

		VRT			Cooling Tower			
Stack Height =		80	feet	Stack Height =	57.5	feet		
Stack Diameter =		10.00	feet	Stack Diameter =	27.49	feet		
Stack Temperature =		269.1	F	Stack Temp =			Stack Velocity =	
Stack Velocity =				Summer	104.0	F	36.33	feet/sec
	Summer	38.0	feet/sec	Fall/Spring	92	F	35.93	feet/sec
	Fall/Spring	35.7	feet/sec	Winter	86	F	35.77	feet/sec
	Winter	35.3	feet/sec					

Table G-16R Plant Startup Emissions

Pollutant	PTU (lbs/hr)	100% VRTs (total) (lbs/hr)	100% VRTs (each) (lbs/hr)	Cooling Tower (lbs/hr)	Total (tons/period)
PM 10	64.8	3.45	0.86	3.62	1.65
H2S	11.8	21.3	5.32	5.20	0.34
Ammonia	47.2	103.5	25.87	857	7.92
VOC	0.460	5.149	1.29	0.47	0.02

VRTs (total)				VRTs (each)				Cooling Tower				PTU	
1-Hour		24-Hour		1-Hour		24-Hour		1-Hour		24-Hour		1&24-Hour	
(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)	(lbs/hr)	(gm/sec)
2.01E-01	2.53E-02	4.19E-02	5.28E-03	5.02E-02	6.34E-03	1.05E-02	1.32E-03	3.62E+00	4.57E-01	3.62E+00	4.57E-01	64.8	8.17
1.24E+00	1.56E-01	2.58E-01	3.26E-02	3.10E-01	3.91E-02	6.46E-02	8.14E-03	3.03E-01	3.82E-02	1.06E+00	1.34E-01	11.8	1.49

Notes:

- A total of 50 hours will be venting at PTU emission rates (0.8 mlb/hr)
- A total of 5 hours will be venting at VRTs (5.82% of full flow)
- A total of 45 hours will be venting at Cooling Towers (emissions range from 5.82% to 58.2% of full flow)
- A period is one startup per year.
- 100 % Flow based on 15.4 mpph brine flow rate.

Modeling Scenario

- One well venting at the PTU while one well is venting at the other sources
- At the PTU, use listed values. For other sources use 5.82% of listed values for hourly rates except for cooling tower drift

	VRT		Cooling Tower			
Stack Height =	80	feet	Stack Height =	57.5	feet	
Stack Diameter =	10.00	feet	Stack Diameter =	27.49	feet	
Stack Temperature =	269.1	F	Stack Temperature =			Stack Velocity =
Stack Velocity =			Summer	104.0	F	36.33 feet/sec
Summer	2.66	feet/sec	Fall/Spring	92	F	35.93 feet/sec
Fall/Spring	2.50	feet/sec	Winter	86	F	35.77 feet/sec
Winter	2.47	feet/sec				

Table G-17R
SOURCE PARAMETERS
ALL SOURCES CONTINUOUS

SOURCE ID	*SPLIT CONFIG*		*STACK*	*STACK*	*STACK*	*STACK*
	UTM EAST	*UTM NORTH*	*HEIGHT (FT.)*	*DIAMETER (FT.)*	*TEMPERATURE (°F)*	*VELOCITY (FPS)*
CT A (COND)	627995	3670619	57.5	27.49	Varies	Varies
CT B (VENT)	628008	3670607	57.5	27.49	Varies	Varies
CT C	628020	3670594	57.5	27.49	Varies	Varies
CT D	628032	3670582	57.5	27.49	Varies	Varies
CT E (COND)	628045	3670570	57.5	27.49	Varies	Varies
CT F	628057	3670557	57.5	27.49	Varies	Varies
CT G	628069	3670545	57.5	27.49	Varies	Varies
CT H	628081	3670533	57.5	27.49	Varies	Varies
CT I	628094	3670521	57.5	27.49	Varies	Varies
CT J	628106	3670508	57.5	27.49	Varies	Varies
CT K	628250	3670603	57.5	27.49	Varies	Varies
CT L	628263	3670591	57.5	27.49	Varies	Varies
CT M	628275	3670578	57.5	27.49	Varies	Varies
CT N	628287	3670566	57.5	27.49	Varies	Varies
CT O	628300	3670554	57.5	27.49	Varies	Varies
CT P	628312	3670541	57.5	27.49	Varies	Varies
CT Q	628324	3670529	57.5	27.49	Varies	Varies
CT R	628336	3670517	57.5	27.49	Varies	Varies
CT S	628349	3670505	57.5	27.49	Varies	Varies
CT T	628361	3670492	57.5	27.49	Varies	Varies

ALL MAJOR SOURCES INTERMITTENT

SOURCE ID	*UTM EAST*	*UTM NORTH*	*STACK*	*STACK*	*STACK*	*STACK*
			HEIGHT (FT.)	*DIAMETER (FT.)*	*TEMPERATURE (°F)*	*VELOCITY (FPS)*
480 V Diesel Generator	627827	3670540	40	0.67	793	128
4160 V Diesel Generator	627952	3670669	60	1.5	963	160
Diesel Fire Pump	627944	3670617	40	0.5	855	128
VRT A	627264	3670371	80	10	269.1	38
VRT B	627264	3670371	80	10	269.1	38
VRT C	627264	3670371	80	10	269.1	38
VRT D	627264	3670371	80	10	269.1	38
PTU	628081	3670789	75	7	226.7	40.8
PAD O	629189	3668550	60	5	226.7	55.9
PAD R	630021	3669976	60	5	226.7	55.9
PAD P	630021	3669345	60	5	226.7	55.9
AFTA	627986	3670759	66	10	228.2	65.8
AFTB	627986	3670751	66	10	228.2	65.8
AFTC	627986	3670710	66	10	228.2	65.8
AFTD	627986	3670702	66	10	228.2	65.8
Steam Blow (HP1)	627848	3670580	80	2.5	322	287
Steam Blow (HP2)	627850	3670580	80	2.5	322	287
Steam Blow (SP1)	627847	3670580	80	2.5	299	195
Steam Blow (SP2)	627851	3670580	80	2.5	299	195
Steam Blow (LP1)	627846	3670580	80	3	246	315.9
Steam Blow (LP2)	627852	3670580	80	3	246	315.9

Table G-17R
SOURCE PARAMETERS (Continued)
EQUIPMENT

SOURCE ID	*UTM EAST*	*UTM NORTH*	*EQUIPMENT HEIGHT (FT.)*	*EQUIPMENT DIAMETER (FT.)*
SP Scrubber	627828	3670738	30	6
SP Scrubber	627828	3670725	30	6
LP Scrubber	627838	3670738	30	6
LP Scrubber	627838	3670725	30	6
LP Crystallizer	627840	3670773	55	17
LP Crystallizer	627840	3670749	55	17
LP Crystallizer	627840	3670713	55	17
LP Crystallizer	627840	3670689	55	17
HP Scrubber	627820	3670738	22	6
HP Scrubber	627820	3670725	22	6
AFT A	627858	3670773	48	16
AFT B	627858	3670748	48	16
AFT C	627858	3670713	48	16
AFT D	627858	3670689	48	16
SP Crystallizer	627828	3670773	55	17
SP Crystallizer	627828	3670749	55	17
SP Crystallizer	627828	3670713	55	17
SP Crystallizer	627828	3670689	55	17
Primary Clarifier	627888	3670732	34	165
Secondary Clarifier	627938	3670610	32	150
Fire Water Tank	627938	3670610	40	36
Thickener	627870	3670800	10	35
Thickener	627956	3670800	10	35
High Pressure Demister	627839	3670626	22	6
High Pressure Demister	627859	3670626	22	6
Standard Pressure Demister	627839	3670608	30	6
Standard Pressure Demister	627859	3670608	30	6
Low Pressure Demister	627839	3670597	30	6
Low Pressure Demister	627859	3670597	30	6
HCl Tank	627972	3670806	12	8
Flocculant Tank	627972	3670794	12	8
Condensate Storage Tank	627873	3670631	24	26
VRT A	627986	3670759	30	16
VRT B	627986	3670751	30	16
VRT C	627986	3670710	30	16
VRT D	627986	3670702	30	16
PTU	628081	3670789	30	14.5

Table G-17R
SOURCE PARAMETERS (Continued)
BUILDING LIKE EQUIPMENT

SOURCE ID	*UTM EAST*	*UTM NORTH*	*CORNER*	*BUILDING HEIGHT (FT.)*
HP Separator	627264	3670371	SW	22
(horizontal)	627801	3670771	NW	22
12X48 FEET	627801	3670775	NE	22
	627815	3670775	SE	22
HP Separator	627801	3670746	SW	22
(horizontal)	627801	3670750	NW	22
12X48 FEET	627815	3670750	NE	22
	627815	3670746	SE	22
HP Separator	627801	3670711	SW	22
(horizontal)	627801	3670715	NW	22
12X48 FEET	627815	3670715	NE	22
	627815	3670711	SE	22
HP Separator	627801	3670686	SW	22
(horizontal)	627801	3670690	NW	22
12X48 FEET	627815	3670690	NE	22
	627815	3670686	SE	22
Turbine Pedestal	627838	3670550	SW	30
100X190 FEET	627838	3670577	NW	30
	627915	3670577	NE	30
	627915	3670550	SE	30
H2S Abatement	628038	3670635	SW	35
60X60 FEET	628038	3670653	NW	35
	628056	3670653	NE	35
	628056	3670635	SE	35
Fire Water Pump House	627939	3670619	SW	12
20X30 FEET	627942	3670622	NW	12
	627949	3670616	NE	12
	627946	3670613	SE	12
CONDENSATE BASIN	627951	3670587	SW	20
50X160 FEET	627961	3670597	NW	20
	627996	3670563	NE	20
	627985	3670552	SE	20
ORMAT	627814	3670783	SW	20
140X120 FEET	627814	3670820	NW	20
	627857	3670820	NE	20
	627857	3670783	SE	20
Filter Press System	627887	3670810	SW	28
40X180 FEET	627887	3670792	NW	28
	627942	3670810	NE	28
	627942	3670792	SE	28

Table G-17R
SOURCE PARAMETERS (Concluded)
BUILDINGS

BUILDING ID	*UTM EAST*	*UTM NORTH*	*CORNER*	*BUILDING HEIGHT (FT.)*
Control	627775	3670598	SW	16
Building	627775	3670641	NW	16
	627800	3670641	NE	16
	627800	3670598	SE	16
PDC	628270	3670621	SW	16
(by Cooling Tower)	628274	3670624	NW	16
	628280	3670619	NE	16
	628277	3670615	SE	16
PDC	627866	3670600	SW	16
(by NCG skid)	627866	3670609	NW	16
	627870	3670609	NE	16
	627870	3670600	SE	16
PDC	627842	3670537	SW	16
(by Sub Station)	627842	3670545	NW	16
	627858	3670545	NE	16
	627858	3670537	SE	16
PDC	627961	3670678	SW	16
(by Clarifier)	627961	3670687	NW	16
	627976	3670687	NE	16
	627976	3670678	SE	16
CT-6101A	627983	3670619	SW	36.5
(excludes stacks)	627995	3670631	NW	36.5
TOWER 1	628118	3670508	NE	36.5
	628106	3670496	SE	36.5
CT-6101B	628238	3670603	SW	36.5
(excludes stacks)	628250	3670615	NW	36.5
TOWER 2	628373	3670492	NE	36.5
	628361	3670480	SE	36.5
Benzene	628013	3670638	SW	20
Abatement	628013	3670653	NW	20
	628029	3670653	NE	20
	628029	3670638	SE	20
NCG (Ejector # 1)	627874	3670583	SW	20
Skid	627874	3670601	NW	20
	627912	3670601	NE	20
	627912	3670583	SE	20

SSU6 FENCELINE

CORNER ID	*UTM EAST*	*UTM NORTH*
SW	627630	3670355
NW	627631	3670890
NE	628404	3670890
SE	628403	3670354

- All UTM coordinates are in meters

Table G-17.1R
STACK, BUILDING AND FENCELINE COORDINATES IN NAD83 AND NAD27

ALL SOURCES CONTINUOUS

SOURCE ID	*NAD83*		*NAVD 88*	*NAD27*		*NGVD 29*
	Easting	*Northing*	*Elevation*	*Easting*	*Northing*	*Elevation*
CT A (COND)	627995	3670619	-227	628075	3670424	-229
CT B (VENT)	628008	3670607	-227	628088	3670412	-229
CT C	628020	3670594	-227	628100	3670399	-229
CT D	628032	3670582	-227	628112	3670387	-229
CT E (COND)	628045	3670570	-227	628125	3670375	-229
CT F	628057	3670557	-227	628137	3670362	-229
CT G	628069	3670545	-227	628149	3670350	-229
CT H	628081	3670533	-227	628161	3670338	-229
CT I	628094	3670521	-227	628174	3670326	-229
CT J	628106	3670508	-227	628186	3670313	-229
CT K	628250	3670603	-227	628330	3670408	-229
CT L	628263	3670591	-227	628343	3670396	-229
CT M	628275	3670578	-227	628355	3670383	-229
CT N	628287	3670566	-227	628367	3670371	-229
CT O	628300	3670554	-227	628380	3670359	-229
CT P	628312	3670541	-227	628392	3670346	-229
CT Q	628324	3670529	-227	628404	3670334	-229
CT R	628336	3670517	-227	628416	3670322	-229
CT S	628349	3670505	-227	628429	3670310	-229
CT T	628361	3670492	-227	628441	3670297	-229

-Removed dilution water heaters, cooling tower coordinates have changed

Table G-17.1R
STACK, BUILDING AND FENCELINE COORDINATES IN NAD83 AND NAD27 (Continued)

ALL SOURCES INTERMITTENT

SOURCE ID	*NAD83*		*NAVD 88*	*NAD27*		*NGVD 29*
	Easting	*Northing*	*Elevation*	*Easting*	*Northing*	*Elevation*
480 V Diesel Generator	627827	3670540	-228	627907	3670345	-230
4160 V Diesel Generator	627952	3670669	-228	628032	3670474	-230
Diesel Fire Pump	627944	3670617	-228	628024	3670422	-230
O & M Exhaust 1						
1	628003	3670841	-228	628083	3670646	-230
2	628048	3670848	-228	628128	3670653	-230
3	627959	3670833	-228	628039	3670638	-230
4	627915	3670825	-228	627994	3670630	-230
5	628092	3670856	-228	628172	3670661	-230
O & M Exhaust 2						
1	627774	3670810	-228	627854	3670615	-230
2	627774	3670723	-228	627854	3670528	-230
3	627765	3670636	-228	627845	3670441	-230
4	627775	3670549	-228	627855	3670354	-230
5	627880	3670810	-228	627960	3670615	-230
6	627880	3670674	-228	627960	3670479	-230
7	627882	3670637	-228	627962	3670442	-230
8	627882	3670531	-228	627962	3670336	-230
9	627986	3670811	-228	628066	3670616	-230
10	628006	3670725	-228	628086	3670530	-230
11	627988	3670638	-228	628068	3670443	-230
12	628008	3670552	-228	628088	3670357	-230
High Pressure Steam Blow 1	627848	3670580	-228	627928	3670385	-230
High Pressure Steam Blow 1	627850	3670580	-228	627930	3670385	-230
Standard Pressure Steam Blow 1	627847	3670580	-228	627927	3670385	-230
Standard Pressure Steam Blow 1	627851	3670580	-228	627931	3670385	-230
Low Pressure Steam Blow 1	627846	3670580	-228	627926	3670385	-230
Low Pressure Steam Blow 1	627852	3670580	-228	627932	3670385	-230
PAD I (OB3)	627012	3670933	-203	627092	3670738	-205
BP Injection Well	627680	3670810	-226	627760	3670615	-228
PAD R (OBI2) Injection Well	630021	3669975	-215	630101	3669780	-217
PAD P (OBI3) Injection Well	630021	3669344	-214	630101	3669149	-216
PAD O (OBI1) Injection Well	629189	3668549	-212	629269	3668354	-214
CT Injection Well	628375	3670810	-226	628455	3670615	-228
PAD N (OB1)	628277	3671329	-228	628357	3671134	-230
PAD J (OB2)	627817	2671041	-228	627897	2670846	-230
PAD C (OB4)	627671	3670378	-226	627751	3670183	-228
PAD L (OB5)	628073	3670083	-226	628153	3669888	-228
Filter Cake	627894	3670825	-228	627974.31	3670630	-230
Sulfur Cake	628046	3670663	-228	628125.81	3670468.25	-230
PTU	628081	3670789	-220	628161	3670594	-222
AFT A	627986	3670759	-228	628066	3670564	-230
AFT B	627986	3670751	-228	628066	3670556	-230
AFT C	627986	3670710	-228	628066	3670515	-230
AFT D	627986	3670702	-228	628066	3670507	-230
Truck Storage 260x37 m (Radon)	627965	3670835	-228	628045	3670640	-230

Added AFTs, removed one Filter cake press, updated PTU and other wells, moved slightly several O&M E2 sources

Table G-17.1R
STACK, BUILDING AND FENCELINE COORDINATES IN NAD83 AND NAD27 (Continued)

EQUIPMENT

SOURCE ID	*NAD83*		*NAVD 88*	*NAD27*		*NGVD 29*
	Easting	*Northing*	*Elevation*	*Easting*	*Northing*	*Elevation*
SP Scrubber 1	627828	3670738	-228	627908	3670543	-230
SP Scrubber 2	627828	3670725	-228	627908	3670530	-230
LP Scrubber 1	627838	3670738	-228	627918	3670543	-230
LP Scrubber 2	627838	3670725	-228	627918	3670530	-230
LP Crystallizer 1	627840	3670773	-228	627920	3670578	-230
LP Crystallizer 2	627840	3670749	-228	627920	3670554	-230
LP Crystallizer 3	627840	3670713	-228	627920	3670518	-230
LP Crystallizer 4	627840	3670689	-228	627920	3670494	-230
HP Scrubber 1	627820	3670738	-228	627900	3670543	-230
HP Scrubber 2	627820	3670725	-228	627900	3670530	-230
AFT A	627858	3670773	-228	627938	3670578	-230
AFT B	627858	3670748	-228	627938	3670553	-230
AFT C	627858	3670713	-228	627938	3670518	-230
AFT D	627858	3670689	-228	627938	3670494	-230
SP Crystallizer 1	627828	3670773	-228	627908	3670578	-230
SP Crystallizer 2	627828	3670749	-228	627908	3670554	-230
SP Crystallizer 3	627828	3670713	-228	627908	3670518	-230
SP Crystallizer 4	627828	3670689	-228	627908	3670494	-230
Primary Clarifier	627888	3670732	-228	627968	3670537	-230
Secondary Clarifier	627938	3670732	-228	628018	3670537	-230
Fire Water Tank	627938	3670610	-228	628018	3670415	-230
Thickener	627870	3670800	-228	627950	3670605	-230
Thickener	627956	3670800	-228	628036	3670605	-230
High Pressure Demister	627839	3670626	-228	627919	3670431	-230
High Pressure Demister	627859	3670626	-228	627939	3670431	-230
Standard Pressure Demister	627839	3670608	-228	627919	3670413	-230
Standard Pressure Demister	627859	3670608	-228	627939	3670413	-230
Low Pressure Demister	627839	3670597	-228	627919	3670402	-230
Low Pressure Demister	627859	3670597	-228	627939	3670402	-230
HCl Tank	627972	3670806	-228	628052	3670611	-230
Flocculant Tank	627972	3670794	-228	628052	3670599	-230
Condensate Storage Tank	627873	3670631	-228	627953	3670436	-230
VRT A	627986	3670759	-228	628066	3670564	-230
VRT B	627986	3670751	-228	628066	3670556	-230
VRT C	627986	3670710	-228	628066	3670515	-230
VRT D	627986	3670702	-228	628066	3670507	-230
PTU (Well Flow Test Unit)	628081	3670789	-220	628161	3670594	-222

Removed two clarifers and changed coordinates of the remaining clarifiers, removed DWHs, updated PTU

Table G-17.1R
STACK, BUILDING AND FENCELINE COORDINATES IN NAD83 AND NAD27 (Continued)

BUILDING LIKE EQUIPMENT

SOURCE ID	*NAD83*		*NAVD 88*	*NAD27*		*NGVD 29*
	Easting	*Northing*	*Elevation*	*Easting*	*Northing*	*Elevation*
HP Separator 1	627801	3670771	-228	627881	3670576	-230
(horizontal)	627801	3670775	-228	627881	3670580	-230
12X48 FEET	627815	3670775	-228	627895	3670580	-230
	627815	3670771	-228	627895	3670576	-230
HP Separator 2	627801	3670746	-228	627881	3670551	-230
(horizontal)	627801	3670750	-228	627881	3670555	-230
12X48 FEET	627815	3670750	-228	627895	3670555	-230
	627815	3670746	-228	627895	3670551	-230
HP Separator 3	627801	3670711	-228	627881	3670516	-230
(horizontal)	627801	3670715	-228	627881	3670520	-230
12X48 FEET	627815	3670715	-228	627895	3670520	-230
	627815	3670711	-228	627895	3670516	-230
HP Separator 4	627801	3670686	-228	627881	3670491	-230
(horizontal)	627801	3670690	-228	627881	3670495	-230
12X48 FEET	627815	3670690	-228	627895	3670495	-230
	627815	3670686	-228	627895	3670491	-230
Turbine Pedestal	627838	3670550	-228	627918	3670355	-230
100X190 FEET	627838	3670577	-228	627918	3670382	-230
	627915	3670577	-228	627995	3670382	-230
	627915	3670550	-228	627995	3670355	-230
H2S Abatement	628038	3670635	-228	628118	3670440	-230
60X60 FEET	628038	3670653	-228	628118	3670458	-230
	628056	3670653	-228	628136	3670458	-230
	628056	3670635	-228	628136	3670440	-230
Fire Water Pump House	627939	3670619	-228	628019	3670424	-230
20X30 FEET	627942	3670622	-228	628022	3670427	-230
	627949	3670616	-228	628029	3670421	-230
	627946	3670613	-228	628026	3670418	-230
Condensate Basin	627951	3670587	-228	628031	3670392	-230
50X160 FEET	627961	3670597	-228	628041	3670402	-230
	627996	3670563	-228	628076	3670368	-230
	627985	3670552	-228	628065	3670357	-230
ORMAT	627814	3670783	-228	627894	3670588	-230
140X120 FEET	627814	3670820	-228	627894	3670625	-230
	627857	3670820	-228	627937	3670625	-230
	627857	3670783	-228	627937	3670588	-230
Filter Press System	627887	3670810	-228	627967	3670615	-230
40X180 FEET	627887	3670792	-228	627967	3670597	-230
	627942	3670810	-228	628022	3670615	-230
	627942	3670792	-228	628022	3670597	-230

Added Condensate Basin and Ormat System

Table G-17.1R
STACK, BUILDING AND FENCELINE COORDINATES IN NAD83 AND NAD27 (Concluded)

BUILDINGS

BUILDING ID	*NAD83*		*NAVD 88*	*NAD27*		*NGVD 29*
	Easting	*Northing*	*Elevation*	*Easting*	*Northing*	*Elevation*
Control	627775	3670598	-228	627855	3670403	-230
Building	627775	3670641	-228	627855	3670446	-230
	627800	3670641	-228	627880	3670446	-230
	627800	3670598	-228	627880	3670403	-230
PDC	628270	3670621	-228	628350	3670426	-230
(by Cooling Tower)	628274	3670624	-228	628354	3670429	-230
	628280	3670619	-228	628360	3670424	-230
	628277	3670615	-228	628357	3670420	-230
PDC	627866	3670600	-228	627946	3670405	-230
(by NCG skid)	627866	3670609	-228	627946	3670414	-230
	627870	3670609	-228	627950	3670414	-230
	627870	3670600	-228	627950	3670405	-230
PDC	627842	3670537	-228	627922	3670342	-230
(by Sub Station)	627842	3670545	-228	627922	3670350	-230
	627858	3670545	-228	627938	3670350	-230
	627858	3670537	-228	627938	3670342	-230
PDC	627961	3670678	-228	628041	3670483	-230
(by Clarifier)	627961	3670687	-228	628041	3670492	-230
	627976	3670687	-228	628056	3670492	-230
	627976	3670678	-228	628056	3670483	-230
CT-6101A	627983	3670619	-227	628063	3670424	-229
(excludes stacks)	627995	3670631	-227	628075	3670436	-229
	628118	3670508	-227	628198	3670313	-229
	628106	3670496	-227	628186	3670301	-229
CT-6101B	628238	3670603	-227	628318	3670408	-229
(excludes stacks)	628250	3670615	-227	628330	3670420	-229
	628373	3670492	-227	628453	3670297	-229
	628361	3670480	-227	628441	3670285	-229
Benzene	628013	3670638	-228	628093	3670443	-230
Abatement	628013	3670653	-228	628093	3670458	-230
	628029	3670653	-228	628109	3670458	-230
	628029	3670638	-228	628109	3670443	-230
NCG (Ejector # 1)	627874	3670583	-228	627954	3670388	-230
Skid	627874	3670601	-228	627954	3670406	-230
	627912	3670601	-228	627992	3670406	-230
	627912	3670583	-228	627992	3670388	-230

Cooling towers coodinates have changed

SSU6 FENCELINE

CORNER ID	*NAD83*		*NAVD 88*	*NAD27*		*NGVD 29*
	Easting	*Northing*	*Elevation*	*Easting*	*Northing*	*Elevation*
SW	627630	3670355	-228	627710	3670160	-230
NW	627631	3670890	-228	627711	3670695	-230
NE	628404	3670890	-228	628484	3670695	-230
SE	628403	3670354	-228	628483	3670159	-230

Expanded Fenceline 100 meters south

- **All UTM coordinates are in METERS.**
- **All elevations are in FEET.**

TABLE G-23R OPERATIONS PM10 IMPACTS

24 HOUR

File	Average	Group	Conc.	East(X)	North(Y)	Time
PM10 OPER 24 95 OTHER.USF	24-HR	ALL	2.59472	628483.31	3670404.25	95051324
	24-HR	CTALL	2.51251	628483.31	3670375.25	95051324
	24-HR	480	0.12429	627710.12	3670318	95072424
	24-HR	4160	0.4013	628600	3670630	95061624
	24-HR	FIREPUMP	0.24712	628483.38	3670433.5	95122524
	24-HR	OM1	0.03989	628275.88	3670695	95061624
	24-HR	OM2	0.02786	627755.44	3670703.5	95103024
	24-HR	ROADS	1.2793	627675.56	3670705.25	95122324
	24-HR	FCAKE	1.69461	628008.31	3670695	95120324
	24-HR	SULCAKE	0.00301	628246.19	3670695	95120424
PM10 OPER 24 96 OTHER.USF	24-HR	ALL	3.04417	628483.19	3670346.25	96111524
	24-HR	CTALL	2.92183	628483.19	3670346.25	96111524
	24-HR	480	0.10131	627799.19	3670160	96010224
	24-HR	4160	0.48392	628484	3670695	96041724
	24-HR	FIREPUMP	0.27109	628483.5	3670462.5	96112524
	24-HR	OM1	0.03962	628216.38	3670695	96041724
	24-HR	OM2	0.03768	627755.44	3670703.5	96090324
	24-HR	ROADS	1.03218	628420	3670900	96060124
	24-HR	FCAKE	1.34622	628038	3670695	96101724
	24-HR	SULCAKE	0.00291	628097.5	3670695	96102424
PM10 OPER 24 97 OTHER.USF	24-HR	ALL	3.30913	628483.19	3670346.25	97061324
	24-HR	CTALL	3.14862	628483.19	3670346.25	97061324
	24-HR	480	0.1097	627858.69	3670159.75	97121124
	24-HR	4160	0.4294	628660	3670690	97062324
	24-HR	FIREPUMP	0.28253	627710.38	3670434	97062624
	24-HR	OM1	0.04822	628246.19	3670695	97052424
	24-HR	OM2	0.03126	627919.12	3670695	97051224
	24-HR	ROADS	0.84089	627675.56	3670705.25	97121524
	24-HR	FCAKE	2.09738	628008.31	3670695	97092324
	24-HR	SULCAKE	0.00382	628246.19	3670695	97092324
PM10 OPER 24 98 OTHER.USF	24-HR	ALL	3.19027	628483.31	3670375.25	98061624
	24-HR	CTALL	3.09404	628483.31	3670375.25	98061624
	24-HR	480	0.09244	627880	3670150	98080324
	24-HR	4160	0.4862	628660	3670570	98101524
	24-HR	FIREPUMP	0.27934	628096.5	3670159.5	98121624
	24-HR	OM1	0.0422	628246.19	3670695	98032724
	24-HR	OM2	0.03515	627889.38	3670695	98090824
	24-HR	ROADS	0.91779	628420	3670960	98011124
	24-HR	FCAKE	1.34587	628038	3670695	98010924
	24-HR	SULCAKE	0.00265	628127.19	3670695	98071424
PM10 OPER 24 99 OTHER.USF	24-HR	ALL	3.37507	628483.19	3670346.25	99042824
	24-HR	CTALL	3.36131	628483.19	3670346.25	99042824
	24-HR	480	0.13819	627828.88	3670159.75	99092824
	24-HR	4160	0.52085	628484	3670695	99033124
	24-HR	FIREPUMP	0.23491	628483.62	3670520.5	99121424
	24-HR	OM1	0.05042	628246.19	3670695	99033124
	24-HR	OM2	0.03674	627755.44	3670703.5	99082924
	24-HR	ROADS	0.89626	627755.44	3670703.5	99021324
	24-HR	FCAKE	1.098	628038	3670695	99050524
	24-HR	SULCAKE	0.00292	628275.88	3670695	99011124

Concentrations are in micrograms per cubic meter

TABLE G-23R OPERATIONS PM10 IMPACTS (Continued)

ANNUAL

File	Average	Group	Conc.	East(X)	North(Y)	Time
PM10 OPER ANNUAL 95						
OTHER.USF	ANNUAL	ALL	0.26246	628450	3670840	1 YRS
	ANNUAL	CTALL	0.12536	628483.31	3670375.25	1 YRS
	ANNUAL	480	0.00013	627710.12	3670318	1 YRS
	ANNUAL	4160	0.00051	628630	3670630	1 YRS
	ANNUAL	FIREPUMP	0.00045	628483.81	3670607.75	1 YRS
	ANNUAL	OM1	0.0003	628246.19	3670695	1 YRS
	ANNUAL	OM2	0.00049	628484	3670695	1 YRS
	ANNUAL	ROADS	0.24348	628450	3670840	1 YRS
	ANNUAL	FCAKE	0.02573	628067.81	3670695	1 YRS
	ANNUAL	SULCAKE	0.00004	628483.81	3670607.75	1 YRS
PM10 OPER ANNUAL 96						
OTHER.USF	ANNUAL	ALL	0.26053	627588.81	3670708.5	1 YRS
	ANNUAL	CTALL	0.16606	628483.31	3670375.25	1 YRS
	ANNUAL	480	0.00014	628483.5	3670462.5	1 YRS
	ANNUAL	4160	0.00054	628484	3670695	1 YRS
	ANNUAL	FIREPUMP	0.00043	628483.62	3670520.5	1 YRS
	ANNUAL	OM1	0.00032	628246.19	3670695	1 YRS
	ANNUAL	OM2	0.00043	628484	3670695	1 YRS
	ANNUAL	ROADS	0.22916	628450	3670840	1 YRS
	ANNUAL	FCAKE	0.02071	628067.81	3670695	1 YRS
	ANNUAL	SULCAKE	0.00003	628483.69	3670549.75	1 YRS
PM10 OPER ANNUAL 97						
OTHER.USF	ANNUAL	ALL	0.2733	627588.81	3670708.5	1 YRS
	ANNUAL	CTALL	0.1416	628483.31	3670404.25	1 YRS
	ANNUAL	480	0.00014	627710.31	3670376	1 YRS
	ANNUAL	4160	0.0005	628630	3670630	1 YRS
	ANNUAL	FIREPUMP	0.00044	628483.62	3670520.5	1 YRS
	ANNUAL	OM1	0.00027	628008.31	3670695	1 YRS
	ANNUAL	OM2	0.00042	628484	3670695	1 YRS
	ANNUAL	ROADS	0.23371	628450	3670870	1 YRS
	ANNUAL	FCAKE	0.02059	628067.81	3670695	1 YRS
	ANNUAL	SULCAKE	0.00004	628483.5	3670491.5	1 YRS
PM10 OPER ANNUAL 98						
OTHER.USF	ANNUAL	ALL	0.26681	628483.31	3670375.25	1 YRS
	ANNUAL	CTALL	0.21932	628483.31	3670375.25	1 YRS
	ANNUAL	480	0.00014	628483.38	3670433.5	1 YRS
	ANNUAL	4160	0.00059	628630	3670570	1 YRS
	ANNUAL	FIREPUMP	0.00046	628483.38	3670433.5	1 YRS
	ANNUAL	OM1	0.00029	628275.88	3670695	1 YRS
	ANNUAL	OM2	0.0004	628484	3670695	1 YRS
	ANNUAL	ROADS	0.24291	628450	3670870	1 YRS
	ANNUAL	FCAKE	0.01907	628067.81	3670695	1 YRS
	ANNUAL	SULCAKE	0.00004	628483.5	3670491.5	1 YRS
PM10 OPER ANNUAL 99						
OTHER.USF	ANNUAL	ALL	0.27361	628483.31	3670375.25	1 YRS
	ANNUAL	CTALL	0.22335	628483.31	3670375.25	1 YRS
	ANNUAL	480	0.00015	628483.38	3670433.5	1 YRS
	ANNUAL	4160	0.00055	628660	3670540	1 YRS
	ANNUAL	FIREPUMP	0.00051	628483.38	3670433.5	1 YRS
	ANNUAL	OM1	0.00025	628067.81	3670695	1 YRS
	ANNUAL	OM2	0.00039	628484	3670695	1 YRS
	ANNUAL	ROADS	0.2307	628450	3670780	1 YRS
	ANNUAL	FCAKE	0.01804	628067.81	3670695	1 YRS
	ANNUAL	SULCAKE	0.00004	628483.5	3670491.5	1 YRS

Concentrations are in micrograms per cubic meter

TABLE G-24R TEMPORARY PM10 IMPACTS

24 HOUR VENTING

File	Average	Group	Conc.	East(X)	North(Y)	Time
PM10 Vent 95 OTHER.USF	24-HR	ALL	2.51258	628483.31	3670375.25	95051324
	24-HR	CTALL	2.51251	628483.31	3670375.25	95051324
	24-HR	VRTALL	0.60981	627100	3670930	95081124
PM10 Vent 96 OTHER.USF	24-HR	ALL	2.92406	628483.19	3670346.25	96111524
	24-HR	CTALL	2.92183	628483.19	3670346.25	96111524
	24-HR	VRTALL	0.40915	629100	3670900	96041024
PM10 Vent 97 OTHER.USF	24-HR	ALL	3.16157	628483.19	3670346.25	97061324
	24-HR	CTALL	3.14862	628483.19	3670346.25	97061324
	24-HR	VRTALL	0.39592	629200	3670800	97100724
PM10 Vent 98 OTHER.USF	24-HR	ALL	3.09451	628483.31	3670375.25	98061624
	24-HR	CTALL	3.09404	628483.31	3670375.25	98061624
	24-HR	VRTALL	0.47682	629199.94	3670690.75	98101524
PM10 Vent 99 OTHER.USF	24-HR	ALL	3.36131	628483.19	3670346.25	99042824
	24-HR	CTALL	3.36131	628483.19	3670346.25	99042824
	24-HR	VRTALL	0.55709	629000	3670900	99033124

Concentrations are in micrograms per cubic meter

24 HOUR STARTUP

File	Average	Group	Conc.	East(X)	North(Y)	Time
PM10 SU 95 OTHER.USF	24-HR	ALL	19.02921	627130	3670960	95081124
	24-HR	CTALL	2.51802	628483.31	3670375.25	95051324
	24-HR	VRTALL	0.06305	628484	3670695	95041724
	24-HR	PTU	18.14385	629000	3670800	95061624
PM10 SU 96 OTHER.USF	24-HR	ALL	18.11963	629000	3671000	96041724
	24-HR	CTALL	2.92824	628483.19	3670346.25	96111524
	24-HR	VRTALL	0.0612	628394.81	3670695	96041724
	24-HR	PTU	17.84516	629000	3671000	96041724
PM10 SU 97 OTHER.USF	24-HR	ALL	20.27075	629000	3670900	97062324
	24-HR	CTALL	3.15552	628483.19	3670346.25	97061324
	24-HR	VRTALL	0.07581	628484	3670695	97062324
	24-HR	PTU	20.05752	629000	3670900	97062324
PM10 SU 98 OTHER.USF	24-HR	ALL	20.85228	628999.69	3670691.25	98101524
	24-HR	CTALL	3.10082	628483.31	3670375.25	98061624
	24-HR	VRTALL	0.06944	628483.81	3670607.75	98101524
	24-HR	PTU	20.69177	628999.69	3670691.25	98101524
PM10 SU 99 OTHER.USF	24-HR	ALL	20.81791	629000	3670900	99033124
	24-HR	CTALL	3.36868	628483.19	3670346.25	99042824
	24-HR	VRTALL	0.07444	628484	3670695	99033124
	24-HR	PTU	20.65924	628999.69	3670691.25	99042224

Concentrations are in micrograms per cubic meter

24 HOUR AFT

File	Average	Group	Conc.	East(X)	North(Y)	Time
PM10 Ormat 95 OTHER.USF	24-HR	ALL	6.35987	627100	367093	95081516
PM10 Ormat 96 OTHER.USF	24-HR	ALL	8.01583	627130	3670960	96081422
PM10 Ormat 97 OTHER.USF	24-HR	ALL	9.50422	628120	3670150	97121009
PM10 Ormat 98 OTHER.USF	24-HR	ALL	10.85779	628275.88	3670695	98030614
PM10 Ormat 99 OTHER.USF	24-HR	ALL	7.50838	628275.88	3670695	99033113

Concentrations are in micrograms per cubic meter

TABLE G-27R OPERATIONS H2S IMPACTS

1 HOUR

File	Average	Group	Conc.	East(X)	North(Y)	Time
H2S OPER 95 OTHER.USF	1-HR	ALL	14.25364	627100	3670870	95091523
H2S OPER 96 OTHER.USF	1-HR	ALL	11.5189	627700	3670570	96090919
H2S OPER 97 OTHER.USF	1-HR	ALL	16.38992	628156	3670159.5	97121009
H2S OPER 98 OTHER.USF	1-HR	ALL	16.09268	627800.19	3670695	98082823
H2S OPER 99 OTHER.USF	1-HR	ALL	11.7455	627721.44	3670707	99072711

Concentrations are in micrograms per cubic meter

TABLE G-28R TEMPORARY H2S IMPACTS

1 HOUR VENTING

File	Average	Group	Conc.	East(X)	North(Y)	Time
H2S Vent 95 Other.USF	1-HR	ALL	13.99881	627100	3670930	95081516
	1-HR	CTALL	6.3587	627100	3670870	95091523
	1-HR	VRTALL	12.86649	627100	3670930	95081516
H2S Vent 96 Other.USF	1-HR	ALL	14.4734	627100	3670930	96090919
	1-HR	CTALL	5.10162	627700	3670570	96090919
	1-HR	VRTALL	13.51996	627100	3670930	96090919
H2S Vent 97 Other.USF	1-HR	ALL	14.00406	627100	3670930	97081615
	1-HR	CTALL	6.97256	628156	3670159.5	97121009
	1-HR	VRTALL	12.59842	627130	3670960	97081615
H2S Vent 98 Other.USF	1-HR	ALL	9.69791	627100	3670900	98071215
	1-HR	CTALL	7.19481	627800.19	3670695	98082823
	1-HR	VRTALL	8.6898	627100	3670900	98071215
H2S Vent 99 Other.USF	1-HR	ALL	12.09023	627100	3670930	99091713
	1-HR	CTALL	5.26729	627721.44	3670707	99072711
	1-HR	VRTALL	11.01856	627100	3670930	99091713

Concentrations are in micrograms per cubic meter

TABLE G-28R TEMPORARY H2S IMPACTS

1 HOUR STARTUP

File	Average	Group	Conc.	East(X)	North(Y)	Time
PTempH2SSU 95 Other.USF	1-HR	ALL	16.22631	627100	3670900	95081109
	1-HR	CTALL	0.83131	627100	3670870	95091523
	1-HR	VRTALL	10.07631	627100	3670930	95021502
	1-HR	PTU	14.93066	627100	3670930	95071113
PTempH2SSU 96 Other.USF	1-HR	ALL	16.91541	627100	3670900	96071316
	1-HR	CTALL	0.67182	627700	3670570	96090919
	1-HR	VRTALL	10.38852	627100	3670930	96091801
	1-HR	PTU	15.37222	627100	3670900	96071316
PTempH2SSU 97 Other.USF	1-HR	ALL	16.31356	627100	3670900	97071716
	1-HR	CTALL	0.95589	628156	3670159.5	97121009
	1-HR	VRTALL	9.67913	627100	3670930	97060304
	1-HR	PTU	15.15757	627100	3670930	97082615
PTempH2SSU 98 Other.USF	1-HR	ALL	13.93417	627100	3670930	98020610
	1-HR	CTALL	0.9385	627800.19	3670695	98082823
	1-HR	VRTALL	9.28142	627100	3670900	98071606
	1-HR	PTU	12.28786	627100	3670930	98020610
PTempH2SSU 99 Other.USF	1-HR	ALL	15.04111	627100	3670930	99070707
	1-HR	CTALL	0.68498	627721.44	3670707	99072711
	1-HR	VRTALL	10.65014	627100	3670930	99092622
	1-HR	PTU	13.18887	627100	3670930	99070707

Concentrations are in micrograms per cubic meter

1 HOUR AFT

File	Average	Group	Conc.	East(X)	North(Y)	Time
H2S Ormat 95 OTHER.USF	1-HR	ALL	0.38011	627100	367093	95081516
H2S Ormat 96 OTHER.USF	1-HR	ALL	0.47909	627130	3670960	96081422
H2S Ormat 97 OTHER.USF	1-HR	ALL	0.56804	628120	3670150	97121009
H2S Ormat 98 OTHER.USF	1-HR	ALL	0.64894	628275.88	3670695	98030614
H2S Ormat 99 OTHER.USF	1-HR	ALL	0.44876	628275.88	3670695	99033113

Concentrations are in micrograms per cubic meter

Appendix 3
Proposed Revisions to the Conditions of Certification

Proposed Revisions to the Air Quality Conditions of Certification

AIR QUALITY

CONDITIONS OF CERTIFICATION

CONSTRUCTION CONDITIONS OF CERTIFICATION

AQ-C11 The project owner shall provide through chemical monitoring and mass balance, or other means approved by the CPM, quarterly PM_{10} emission estimates for the SSU6 plant to demonstrate that the annual operational emissions are no more than 16.3~~13.71~~ tons/year on a rolling 12-month basis.

Verification: The project owner/operator shall provide the CPM with a proposed PM_{10} emission estimation methodology within 30 days of the start of commercial operations and shall provide the PM_{10} emissions estimates in the Quarterly Operations Report.

~~**AQ-C12** The project owner shall provide through chemical monitoring and mass balance, or other means approved by the CPM, quarterly ammonia emission estimates for the SSU6 plant.~~

~~**Verification:** The project owner/operator shall provide the CPM with a proposed ammonia emission estimation methodology within 30 days of the start of commercial operations and shall provide the SSU6 ammonia emissions estimates in the Quarterly Operations Report.~~

AQ-C14 The emissions of particulate matter less than 10 microns (PM_{10}) from the Cooling Towers shall not exceed ~~2.91~~3.62 lbs/hr, and the drift eliminator shall be designed to limit drift to no more than 0.0005% of the circulating water flow.

Verification: The project owner shall provide copies of the cooling tower specifications and a vendor warranty of the drift efficiency to the CPM 60 days prior to cooling tower equipment delivery on-site.

AQ-C15 Compliance with the Cooling Towers PM_{10} emission limit shall be determined by circulating water sample analysis by ~~independent~~ certified laboratory within 60 days of commercial operation and quarterly thereafter.

Verification: The results and field data collected from cooling tower blowdown water samples analysis shall be submitted to the CPM as part of the Quarterly Operations Reports.

DISTRICT CONDITIONS

SS Unit 6 Operations Specifications and Permit Limitations

Compliance

AQ-4 The facility shall be constructed to operate in substantial compliance with the project description, and operating parameters of the Application For Determination Of Compliance and AFC Application dated July 2002, except as may be modified by more stringent requirements of law or these conditions. Non-compliance with any condition(s) or emission specification of this Permit shall be considered a violation and subject to fines and or imprisonment. This Permit does not authorize the emissions of air contaminants in excess of

those allowed by USEPA (Title 40 of the Code of Federal Regulation), the State of California Division 26, Part 4, Chapter 3 of the Health and Safety Code, or the APCD (Rules and Regulations). This permit cannot be considered permission to violate applicable existing laws, regulations, rules or statutes of other governmental agencies.

Verification: The project owner shall demonstrate compliance status in the Quarterly Operations Reports. Compliance with AQ-4 is demonstrated through complying with Conditions AQ-1 through AQ-38.

Emission Offsets

AQ-5 The project owner shall provide, ***before*** the construction, placement or testing of any emission source(s), offsets in tons listed per source or sources listed below in TABLE A: Offsets may be in the form of ERCs (Emission Reduction Credits) owned by certified ERC holders registered with the Imperial County Air Pollution ERC Agricultural or Stationary Bank. ERCs must be transacted and validated through the APCD. ~~New well drilling will not coincide with any other stationary emissions source for the entire project that will trigger offsets for other pollutants (other than NO_x and PM_{10}) greater than 137 lbs/day threshold.~~ The actual calculated emissions per source has been multiplied by the ratio 1.2 to 1 to comply with offsetting ratio requirements of Rule 207 for permanent stationary sources and 1 to 1 for temporary sources.

TABLE A

SOURCE(S)	OFFSET AMOUNT	OFFSET SOURCE
SS Unit 6 (22.9~~21.1~~ tpy) x 1.2 + temporary emissions (2.7~~0.9~~ tpy) x1	30.18~~26.21~~ tons H_2S	Leathers LP 38 MWe Geothermal Power Plant (70 tons/yr H_2S uncontrolled) control with Biofilters, sparging or APCD approved system
Well Flow Testing (temporary)	5.37~~5.00~~ tons H_2S 32.3~~29.8~~ tons PM_{10}	H_2S from Leathers LP emission control. PM_{10} from ERC Stationary or Ag Bank
SS Unit 6 PM10 (permanent) (Mitigation agreement July 24, 2003)	19.6 tons PM_{10}	ERC Stationary or Ag Bank
Commissioning (temporary)	9.3~~8.7~~ tons H_2S 6.25~~5.63~~ tons PM_{10}	H_2S from Leathers LP emission control. PM_{10} from ERC Stationary or Ag Bank

Verification: The project owner/operator must submit all H_2S ERC documentation to the District and the CPM prior to the start of construction. At least 30 days prior to project commissioning, the project owner shall identify and surrender the permanent and commissioning operations PM_{10} ERCs to the District in the amount shown above and shall provide the CPM with documentation of the ERC surrender. Until such time as the project owner has committed traditional stationary source ERCs to cover the entire permanent offset burden, the project owner shall annually provide to the CPM and the District the agricultural burn secession ERCs being used to offset the project's PM_{10} emissions prior to each calendar or operational year, as required by the District. The project owner shall identify and surrender the well flow testing PM_{10} ERCs to the District as required in the District permit.

Proposed Revisions to the Air Quality Conditions of Certification

On or Before a Permit to Operate for Unit 6 Can Be Issued

AQ-6 The project owner shall install and have in operation a biofilter system, sparging system, or other APCD approved system at the Leathers LLC power plant capable of reducing 27.5~~25.3~~ tons/yr (6.28~~5.77~~ lbs/hr) of H_2S at all times.

Verification: The project owner/operator shall make arrangements for periodic inspections of the Leathers LLC power plant by representatives of the District, CARB, USEPA and CEC.

AQ-7 The total emissions rate of Leathers LLC H_2S shall not exceed 16.52~~17.03~~ lbs/hr after the installation of the ~~bio-filtrations~~chemical abatement system.

Verification: The project owner/operator shall submit records of compliance as part of the Quarterly Operations Reports.

Well Drilling

AQ-15 The project owner shall submit to the APCD fuel usage and hours of operation records for drill rigs owned by the project owner. Fuel usage and operating hour data for drill rigs owned by independent contractors shall be submitted directly to the APCD.

Verification: The project owner/operator shall submit fuel usage and hours of operation to the District and CPM no later than 30 days after completion of well drilling.

Geothermal Power Plant Emissions Standards

AQ-17 Under normal operations, the Project owner shall not exceed a plant wide total emission rate of the following:

Hydrogen Sulfide (NCG + CT Offgassing + Chemical Treatment System Basin Vent~~DWH~~)	7.03~~6.48~~ lbs/hr maximum
Hydrogen Sulfide (NCG + CT Offgassing + Chemical Treatment System Basin Vent~~DWH~~)	5.23~~4.81~~ lbs/hr over a 24 hour average
Hazardous Organics (NCG + CT Offgassing + Chemical Treatment System Basin Vent~~DWH~~)	0.22~~0.180~~ lbs/hr over a 24 hour average
NCG = exhaust from H_2S abatement system CT Offgassing = cooling tower offgassing ~~DWH = Dilution Water Heater Stacks~~ Hazardous Organics includes benzene, ethylbenzene, toluene, and xylene.	

Verification: The project owner/operator shall submit records of compliance as part of the Quarterly Operations Reports.

AQ-19 Emissions of uncontrolled standard and low pressure noncondensible steam shall be ~~calculated from most recent source tests~~determined through annual testing.

Verification: The project owner/operator shall submit records of compliance as part of the Quarterly Operations Reports.

Proposed Revisions to the Air Quality Conditions of Certification

Monitoring

AQ-20 The project owner shall install and maintain in good working order an APCD approved continuous H_2S in-stack monitor and flow gas meter at the H_2S control system exhaust (LOCAT). The flow gas meter and in-stack monitor shall meet all specification, calibration, accuracy and quality assurance checks as set forth by the manufacturer. The monitor shall be equipped with a data logger capable of recording the continuous gas flow (SCFM) and H_2S concentrations in PPBv/ PPMv and lbs/hr.

Verification: The project owner shall make the site available for inspection by representatives of the District~~, CARB, EPA~~ and CEC.

Geothermal Steam Venting Emissions Standards

AQ-23 Unless waived by the APCO, the project owner shall perform ~~annual~~ source testing at (1) the LOCAT/Solid bed H_2S scavenger unit/Carbon adsorption exhaust for H_2S and Benzene emissions+ total speciated organic emissions+ total speciated metals; (2) at the cooling tower cells exhaust for H_2S ~~and ammonia~~ and benzene emissions+ total speciated organic emissions+ total speciated metals every four years after the initial source test following the commencement of operation.~~, and (3) the Dilution Water Heater (DWH) exhaust emissions for H_2S and benzene emissions+ total speciated organic emissions+ total speciated metals and total PM_{10}.~~

Verification: The annual source test report shall be submitted to the District and CPM as part of the Quarterly Operations Reports. Each annual source test report shall either include the results of the initial compliance test and supplemental source tests for the current year or document the date and results of the last such tests.

AQ-28 The project owner shall submit to the APCD the H_2S concentration (ppmv) and H_2S mass flow (lb/hr) measured at the ~~non-condensable gas line before the abatement~~H_2S control system exhaust (LOCAT) and at the same location identified in AQ-20 on a monthly basis. The project owner shall measure the efficiency of the ~~cooling tower oxidizer boxes~~chemical abatement system by measuring the flow rate and H_2S concentration (ppm) of the condensate inlet and ~~the~~ H_2S concentration (ppm) of the condensate outlet ~~of the oxidizer boxes~~ prior to its entry into the cooling tower on a ~~weekly~~ monthly basis and; the project owner shall measure the pH and temperature of the condensate at the ~~inlet~~ outlet of the ~~oxidizer boxes~~chemical abatement system on a ~~weekly~~ monthly basis. ~~All sampling and analysis shall be performed on the same day. The project owner shall source test all cooling tower shrouds annually.~~

Verification: The data required in this condition shall be submitted to the APCD monthly and shall be provided to the CPM in the Quarterly Operations Reports.

Reporting Requirements

~~**AQ-31** The project owner shall notify the APCD before plant startups.~~

~~**Verification:** The project owner/operator shall notify the District and the CPM at least seven (7) days prior to an anticipated startup, including both the estimated time and duration of the startup.~~

AQ-32 The project owner shall notify the APCD at least 48 hours before any official source tests. ~~All official tests shall be witnessed by an APCD official.~~

Verification: The project owner/operator shall notify the District and the CPM at least 48 hours prior to any official source test. The project owner/operator shall provide to the CPM the name of the APCD official who witnessed the source test in the source test report required under condition **AQ-33**.

AQ-33 The project owner shall submit source test results to the APCD no later than ~~30~~ 60 days after the initial performance test. All source tests after the performance test shall be submitted no later than February 28th of the subsequent year for the preceding year results.

Verification: Copies of the required source tests shall be submitted to the CPM and the District simultaneously by the schedule required in this condition.

AQ-34 The project owner shall submit to the APCD monthly, the benzene ~~mole~~ concentration~~s~~ (ppmv), mass rate (lbs/hr) and total NCG gas flow rate (SCFM and lbs/hr) from the carbon absorption units no later than 15 days the subsequent month for the preceding month and; the project owner shall submit to the APCD monthly, the continuous H_2S concentration (PPMv) and Mass (lbs/hr) no later than 15 days the subsequent month for the preceding month

Verification: The APCD required monthly concentration and flow data shall be provided to the CPM in the Quarterly Operations Reports.

Control And Monitoring Equipment Maintenance

AQ-37 The H_2S and carbon absorption control, and drift eliminators and or other future control devices and monitoring equipments shall be maintained in good working order and operating at its maximum control efficiency level specified in accordance to the operating instructions.

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, USEPA and CEC.

ORC UNIT

AQ-39 Under all non-upset operating conditions, the total isopentane emissions shall not exceed a quarterly average of 23 lbs/day from the entire facility, as determined by normal inventory.

All noncondensible gas purging of any binary unit shall be conducted through the Vapor Recovery Unit (VRU). The purging of gases through the VRU to atmosphere shall be conducted only after the separation process of noncondensible and isopentane gases is completed. Purging of noncondensibles to atmosphere shall be conducted in a manner to minimize entrainment of isopentane gas with noncondensible gases.

Prior to conducting any maintenance on any part of an binary unit where the isopentane may be exposed to the atmosphere, the isopentane in that portion of the unit shall be first transferred to the storage tank or any type of vessel that serves as a storage tank, and any

residual isopentane evacuated through the VRU unit. The binary unit shall be evacuated of isopentane in a manner that results in the minimum practical amount of isopentane being emitted to the atmosphere.

Verification: The project owner shall report annually the amount of isopentane purchased and estimate emissions based on mass balance calculations.

Proposed Revisions to the Biological Resources Conditions of Certification

BIOLOGY

CONDITIONS OF CERTIFICATION

Preventative Design Mitigation Features

BIO-12 The project owner shall modify the project design to incorporate all feasible measures that avoid or minimize impacts to the local biological resources such as the following.

1. Design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources and preferentially use previous pull sites or already disturbed locations;
2. Avoid wetland loss to the extent possible when placing facility features;
3. Design, install, and maintain facilities to prevent brine spills from endangering adjacent properties and waterways that contain sensitive habitat;
4. Schedule disposal of brine within brine ponds as expeditiously as possible;
5. Design, install, and maintain facility lighting to prevent side casting of light towards wildlife habitat;
6. Insulate production and injection well pipelines and flanges, except during maintenance, NDE testing and repair activities;
7. Prescribe a road sealant that is non-toxic to wildlife and plants and use only fresh water when adjacent to wetlands, rivers, or drainage canals;
8. Equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 74 dBA measured at a distance of 100 feet. Orient the silencer to maximize the noise reduction achieved in occupied Yuma clapper rail habitat to the north and northwest of the project site (i.e., Union Pond, McKendry Pond and Obisidean Butte).
9. Shield pile driving equipment to maximize noise reduction in the occupied Yuma clapper rail habitat to the north and northwest of the project site (i.e., Union Pond, McKendry Pond and Obsidian Butte.
10. Design, install, and maintain transmission lines and all electrical components to reduce the likelihood of electrocutions of large birds by following the Avian Power Line Interaction Committee (APLIC)'s *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996*;
11. Route the reject reverse osmosis water to the service water pond in lieu of the brine ponds, and
12. All mitigation measures and their implementation methods shall be included in the BRMIMP.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP.

Proposed Revisions to the Biological Resources Conditions of Certification

Provide Habitat Compensation for Permanent Disturbance to Burrowing Owl Habitat

BIO-25 Foraging habitat which is permanently destroyed shall be replaced at 0.5:1 (mitigation:impacts) and managed for the protection of burrowing owls. Based on these ratios, the project owner must protect and manage ~~42~~52.65 acres of land for burrowing owls (~~40~~ 50 acres for the power plant site and 2.65 acres for the transmission line pads). The mitigation amount can be reduced if mitigation land for the same burrowing owls is also being provided under Condition of Certification BIO-19.

Verification: At least 15 days prior to site mobilization, the project owner shall provide the CPM, USFWS, Refuge, and CDFG with the burrowing owl survey results. If burrowing owls are present where a permanent facility will be placed or within 300 feet of a permanent facility, the project owner shall identify the amount of land they intend to protect 15 days prior to construction. The project owner shall fund the acquisition and long-term management of the compensation lands in a form acceptable to the CEC and CDFG (e.g., provide a letter of credit or establish an escrow account) 15 days prior to construction. The land protection proposal and management fund(s) shall be approved by the CPM and reviewed by CDFG. The project owner shall propose land for purchase or protection with a description of habitat types and propose a management and monitoring plan at least 90 days prior to commercial operation.

The project owner shall rectify any underfunded amounts in the acquisition and long-term management account(s) at least 60 days prior to commercial operation. At least 30 days prior to commercial operation, the project owner shall submit to the CPM two copies of the relevant legal paperwork that protects lands in perpetuity (e.g., a conservation easement as filed with the Imperial County Recorder), a final management and monitoring plan, and documents which discuss the types of habitat protected on the parcel. If a private mitigation bank is used, the project owner shall provide a letter to the CPM from the approved land management organization stating the amount of funds received, the amount of acres purchased and their location, and the amount of funds dedicated to long term monitoring or management 60 days prior to commercial operation. If funds remain after performance of all habitat compensation obligations, the monies in the letter of credit or escrow account will be returned to the project owner with written approval of the CPM.

All mitigation measures and their implementation methods shall be included in the BRMIMP.

HAZARDOUS MATERIALS

CONDITIONS OF CERTIFICATION

HAZ-2 The project owner shall provide a Risk Management Plan (RMP) and Process Safety Management Plan (if required ~~by local regulatory body~~) to appropriate local administering agencies and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). A Hazardous Materials Business Plan HMBP (which shall include the proposed building chemical inventory as per the UFC) shall also be submitted to appropriate local administering agencies for review and to the CPM for review and approval prior to construction of hazardous materials storage and containment structures. The project owner shall include all recommendations of the local administering agencies and the CPM in the final HMBP. A copy of the final RMP, including all comments, shall be provided to appropriate local administering agencies and the CPM once it receives EPA approval.

Verification: At least 30 days prior to the commencement of construction of hazardous materials storage and containment structures, the project owner shall provide the final plans (RMP, Process Safety Management Plan, and HMBP) listed above to the CPM for approval.

LAND USE

CONDITIONS OF CERTIFICATION

LAND-6 The project owner shall mitigate for the loss of ~~96~~116-acres at a one-to-one ratio for the conversion of prime farmland as classified by the California Department of Conservation, to a non-agricultural use, for the construction of the power generation facility.

Verification: The project owner will provide a mitigation fee payment (payment to be determined) to an Imperial County agricultural land trust, or a statewide agricultural land trust, within 30 days following the construction start, as set forth in a prepared Farmlands Mitigation Agreement.

The project owner shall provide in the Monthly Compliance Reports a discussion of any land and/or easements purchased in the preceding month by the trust with the mitigation fee money provided, and the provisions to guarantee that the land managed by the trust will be farmed in perpetuity. This discussion must include the schedule for purchasing 96 acres of prime farmland and/or easements within five years of start of construction as compensation for the 96 acres of prime farmland to be converted by the SSU6.

NOISE

CONDITIONS OF CERTIFICATION

NOISE RESTRICTIONS

NOISE-6 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that steady-state operation of the project will not cause noise levels due to plant operation to exceed 41 dBA L_{eq} measured at the residence at the Sonny Bono National Wildlife Refuge headquarters.

No new pure-tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. ~~Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.~~

When the project first achieves a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the monitoring site near the residence at the Sonny Bono National Wildlife Refuge headquarters. This survey during power plant operation shall also include measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.

If the results from the noise survey indicate that the power plant noise level (Leq) at the affected receptor exceeds the above value for any given hour during the 25-hour period, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity. Within 30 days after completing the survey, the project owner shall submit a summary report of the survey to the Imperial County Planning Department, and to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

FACILITY DESIGN

CONDITIONS OF CERTIFICATION

GEN-2 Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

Verification: At least 60 days (or project owner and CBO approved alternative timeframe) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 1** below. Major structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Structures and Equipment List

EQUIPMENT/SYSTEM	QUANTITY (PLANT)
Steam Turbine (ST) Foundation and Connections	1
Steam Turbine Generator Foundation and Connections	1
Steam Condenser and Auxiliaries Foundation and Connections	1
Condensate (HP) Hotwell Pumps Foundation and Connections	2
Condensate (SP/LP) Hotwell Pumps Foundation and Connections	2
Condensate Storage Tank Foundation and Connections	1
Filter Press System Structure, Foundation and Connections	1
Thickener Foundation and Connections	2
Brine Production Wellpads	5
Brine Injection Wellpads	3
Purge Water Pumps (HP/SP/LP) Foundation and Connections	6
Main Transformer Foundation and Connections	1
Counterflow Cooling Tower Foundation and Connections – 10 cells each	2
Vertical Circulating Water Pumps Foundation and Connections	6
Blowdown Pumps Foundation and Connections	2
Cooling Tower Wetdown Pumps Foundation and Connections	2
Auxiliary Cooling Water Pumps Foundation and Connections	2
Benzene Abatement Structure, Foundation and Connections	1
Chemical H_2S Abatement Structure, Foundation and Connections	~~1~~2
NCG Removal System Structure, Foundation and Connections	1
Steam Vent Tank Foundation and Connections	4

EQUIPMENT/SYSTEM	QUANTITY (PLANT)
Waste Water Collection System Foundation and Connections	1
Main Injection Pumps Foundation and Connections	4
Fire Protection System	1
Injection Booster Pump Foundation and Connections	4
Brine Pond Pumps Foundation and Connections	2
Generator Breakers Foundation and Connections	3
Transformer Breakers Foundation and Connections	3
Wellhead Separators Foundation and Connections	4
SP Crystallizers Foundation and Connections	4
LP Crystallizers Foundation and Connections	4
Atmospheric Flash Tanks Foundation and Connections	4
~~Dilution Water Heater/Pumps Foundation and Connections~~Organic Rankine Cycle Foundation and Connections	~~2~~1
Scrubbers Foundation and Connections	6
Demisters Foundation and Connections	6
Primary Clarifiers Foundation and Connections	~~2~~1
Secondary Clarifiers Foundation and Connections	~~2~~1
Vacuum System Foundation and Connections	4
Electric Motor Driven Fire Pump Foundation and Connections	1
Diesel Engine Fire Pump Foundation and Connections	1
Firewater Storage Tank Foundation and Connections	1
Compressed Air System Foundation and Connections	2
Isopentane Tank Foundation and Connections	2
Tower Brom Tanks Foundation and Connections	1
Hydrogen Peroxide Tank Foundation and Connections	1
HCl Tank Foundation and Connections	1
Emergency Relief Tanks Structure, Foundation and Connections	4
Seed Pumps Foundation and Connections	4
Control Room Structure, Foundation and Connections	1
RO/Potable Water Systems	2
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping and Pipe Racks	1 Lot
HVAC and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Substation/Switchyard, Buses and Towers	1 Lot
Electrical Duct Banks	1 Lot

TRANSMISSION LINE SAFETY & NUISANCE

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall ensure that the proposed ~~161~~ 230 kV lines are designed and constructed according to the requirements of CPUC's GO-95, GO-52, the applicable sections of Title 8, California Code of Regulations section 2700 et seq., and IID's EMF reduction guidelines arising from CPUC Decision 93-11-013.

Verification: Thirty days before starting construction of the SSU6 transmission lines or related structures and facilities, the project owner shall submit to the CPM a letter signed by a California registered electrical engineer affirming compliance with this requirement.

TRANSMISSION SYSTEM ENGINEERING

CONDITIONS OF CERTIFICATION

TSE-5 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

(a) The SSU6 will be interconnected to IID grid via two ~~161kV~~ 230 kV single circuits. One of the proposed interconnection would be a 16-mile single circuit connected to the L-line at Bannister switching station. The new Bannister switching station shall be a three-breaker ring bus configuration. The other interconnection would be a 15-mile single circuit ~~161kV~~ 230 kV Line connected at the Midway substation.
(b) The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", Cal-ISO standards, National Electric Code (NEC) and related industry standards.
(c) Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.
(d) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner's standards.
(e) The project conductors shall be sized to accommodate the full output from the project.
(f) Termination facilities shall comply with applicable ~~SGD&E~~IID interconnection standards.

The project owner shall provide to the CPM:

i) The final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS) sequencing and timing if applicable,
ii) Executed project owner and IID Facility Interconnection Agreement.

Verification: At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agree to by the project owner and CBO, the project owner shall submit to the CBO for approval:

1. Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.
2. For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[1] and a statement signed and sealed

[1] Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, “High Voltage Electric Safety Orders”, NEC, applicable interconnection standards, and related industry standards.

3. Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements **TSE-5** a) through f) above.
4. The final DFS, including a description of facility upgrades, operational mitigation measures, and/or SPS sequencing and timing if applicable, shall be provided concurrently to the CPM.

GENERAL CONDITIONS

GENERAL CONDITIONS OF CERTIFICATION

COM-6, KEY EVENTS LIST

PROJECT: **Salton Sea Geothermal Unit #6 Power Project**

DOCKET #: **02-AFC-02**

COMPLIANCE PROJECT MANAGER: **Connie Bruins**

EVENT DESCRIPTION	DATE
Certification Date/Obtain Site Control	
Online Date	
POWER PLANT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Grading	
Start Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
First ~~Combustion of Gas~~Operation of the Steam Turbine	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	
Start T/L Construction	
SYNCHRONIZATION WITH GRID AND INTERCONNECTION	
COMPLETE T/L CONSTRUCTION	
~~**FUEL SUPPLY LINE ACTIVITIES**~~	
~~Start Gas Pipeline Construction and Interconnection~~	
~~COMPLETE GAS PIPELINE CONSTRUCTION~~	
WATER SUPPLY LINE ACTIVITIES	
Start Water Supply Line Construction	
Complete Water Supply Line Construction	